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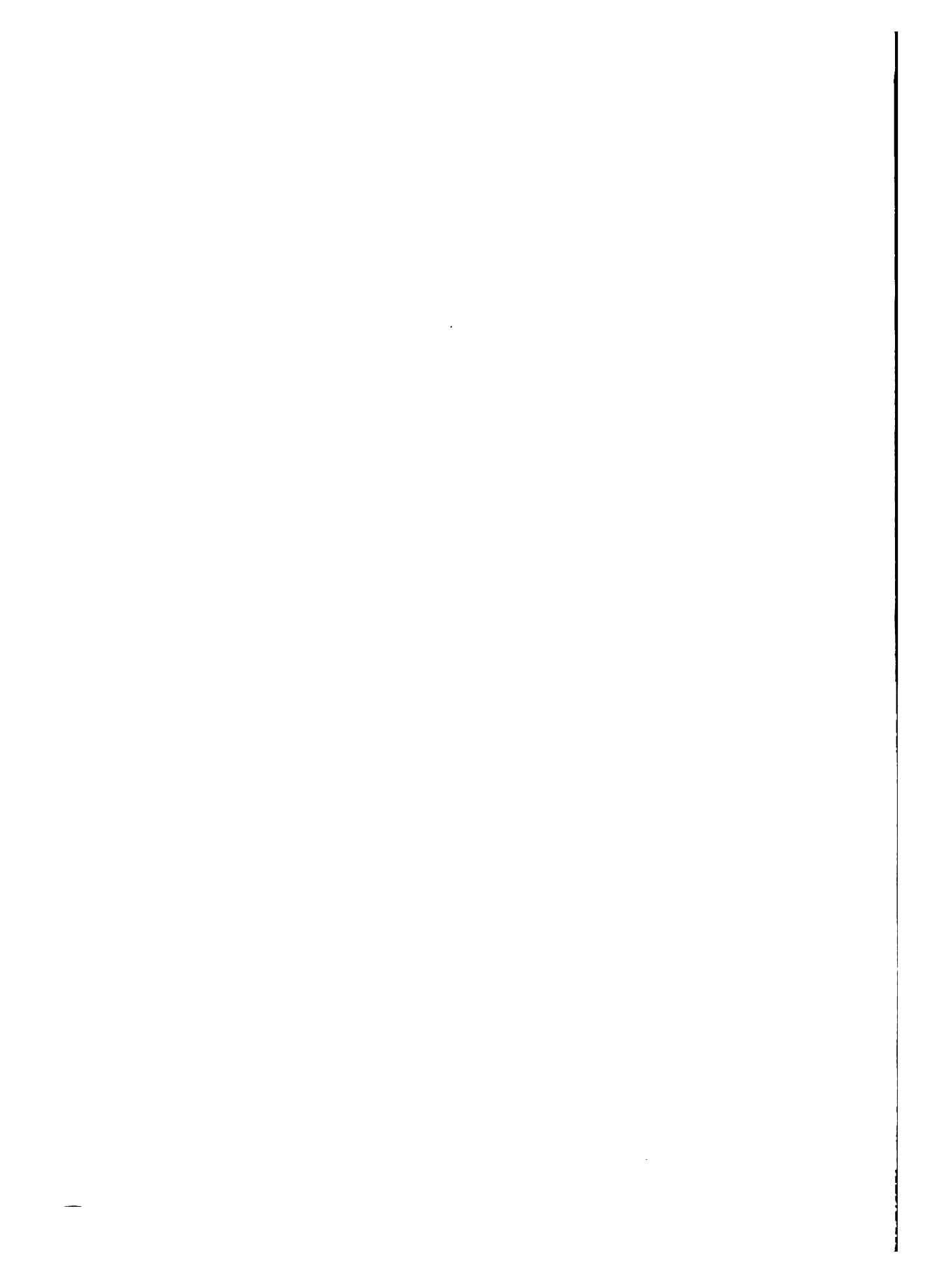
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Art & Industry in Education.



A BOOK ILLUSTRATIVE OF THE PRINCIPLES--
AND PROBLEMS OF THE COURSES IN FINE
AND INDUSTRIAL ARTS AT TEACHERS--
COLLEGE

MAY-1912

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by

Raymond V. Long

For the

**Arts and Crafts Club,
TEACHERS COLLEGE**



FOREWORD.

The Arts and Crafts Club of Teachers College has been able this year to realize a desire it has felt for some years, in publishing a book that attempts to show the relation of Fine Art to Industrial Art, and to represent the attitude of both departments toward the educational situation. It is felt that there is an evident need and demand for such a publication, that will, in some measure at least, answer the inquiries concerning the place of Art and Industry in Education; and to the extent that this book meets this need and answers these inquiries, its purpose will have been realized. It should be understood, however, that the book confines itself to the principles being worked out by the departments, and to the fact that Fine Art and Industrial Art are inseparable.

An effort was made last year to publish a production somewhat of this nature, but for a number of reasons the undertaking was given up. It has been the good fortune of the Club this year, however, to have among its members one who voluntarily agreed to be responsible for any deficit which might result. For thus making the publication possible the Club wishes to express its very grateful appreciation.

It should be borne in mind that the Club is entirely responsible for the book, subject, however, to the sponsorship of Professor Arthur W. Dow and Professor Frederick G. Bonser, of the respective departments of Fine and Industrial Art. All contributions and the entire work of compilation have been voluntary, and no compensation in any form has been offered.

It is confidently expected that the demand for the present issue of the book will justify further effort to make it a permanent publication.

With a very earnest hope that the book will achieve its purpose, and will give some satisfaction on a subject so unsettled and of such consequence, the Club commends it to the careful consideration of its readers.

Raymond V. Long, President.

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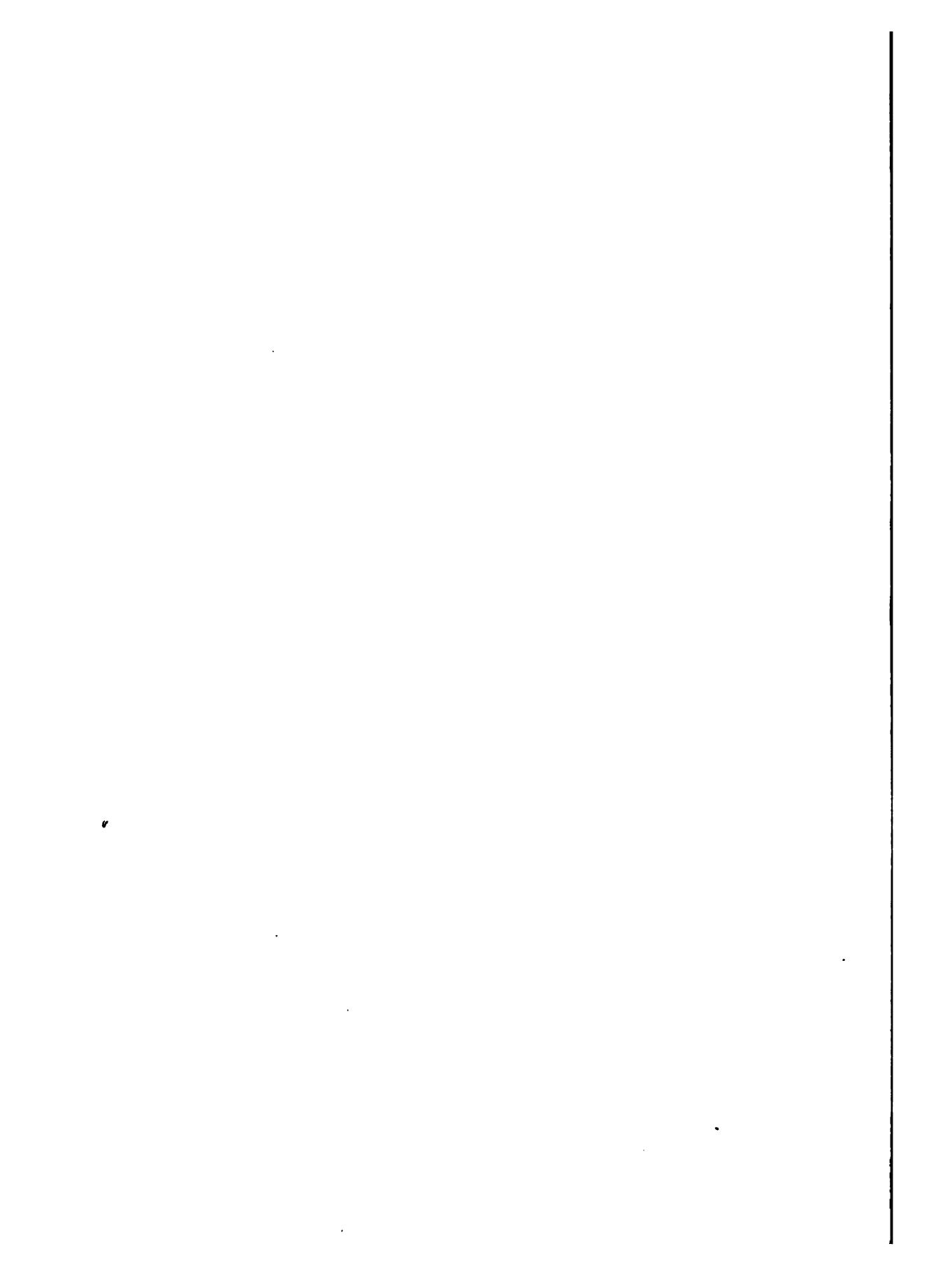
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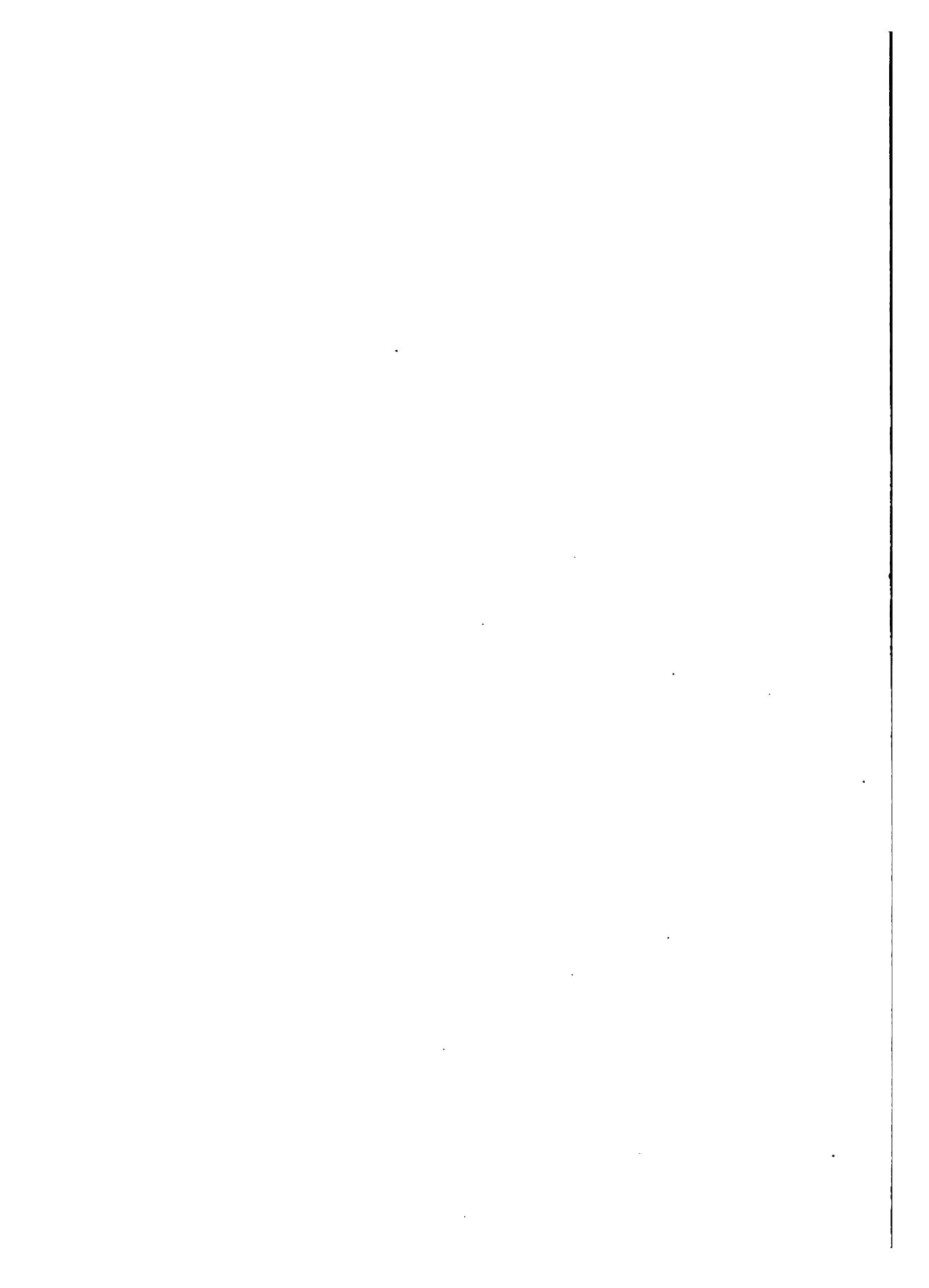


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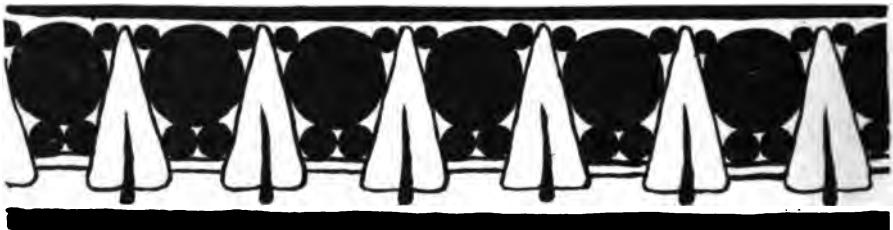
It is a pleasure to wish Godspeed to a publication which depicts the accomplishment and voices the hope of Teachers College workers in the field of Fine Arts. I say Fine Arts, because all arts which satisfy human needs seem fine to me. The line of demarcation between the arts which are so-called industrial and the arts which are conventionally called fine is wholly imaginary and generally superfluous. In college parlance, largely for administrative reasons, we do make a distinction, but the distinction is not one which students are bound to respect.

My congratulations, therefore, are chiefly to those who see beyond the bounds of departmental organization, and who demonstrate in this book that the art which satisfies is the art which meets human needs. The appeal to the aesthetic sense is legitimate; nowhere more legitimate than in making beautiful the homely things of daily life. May this be the mission of this little book.

JAMES E. RUSSELL,

Dean.





MY ART CREED

I believe:

That life itself is the finest of all arts and that its richest realization is art's supreme excuse for being.

That human life is the progressive evolution of the spiritual nature of God and that the measure of growth in the appreciation of the beautiful in the conduct of life is also a measure of the true and the good in man's character.

That the mission of art is to teach a love of beautiful clothes, beautiful households, beautiful utensils, beautiful surroundings, and all to the end that life itself may be rich and full of beauty in its harmony, its purposes, and its ideals.

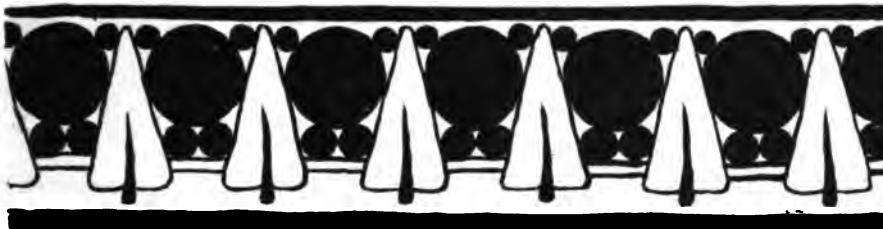
That the spirit of art lifts the artisan from the plane of the animal laboring to provide itself with creature comforts, to the plane of man working to the end that he may thereby most fully and deeply live the spiritual life of human idealism.

That the spirit of art is to lighten the labor of the artisan while at work, no less than to ennoble his leisure by the uplifting influence of its appropriate use.

That the materials of industry—paper and woods and metals and clay and fibers—must be regarded as but media for the expression of a life problem with beauty of form and color as an inseparable element in its resolution.

That the appreciation of beauty in the thousand common things of daily life will result in the final appreciation of beauty as a dissociated ideal.





That nothing in man's life is too trivial to be made more worthy by being done in the spirit and with the perfection of the art ideal.

That art appreciation and art values in human life grow most consistently and most toward life control by the exaltation of the element of beauty in all things—the pursuit of life's common needs and the conduct of man's daily intercourse, no less than in the abstracted idealizations of all these relationships of man to man, and man to God conceived and produced by the imagination of artistic genius.

That all progress in art lies in the expression of the experiences, the hopes, the ideals, and the aspirations of our own environment, of our times, and of our own lives. The past is studied to refine and stimulate creative effort for the expression of the life of the present, not to become a substitute for it.

That children have an inalienable right to the inspiration and uplift of those rare spirits whose creative genius has given us the masterpieces of art in all its forms.

That the effective teacher of art must be a large personality, a great soul, characterized by simplicity, sincerity, love of child life, faith in the eternal hopefulness of life, deeply conscious of human meanings and relationships, sympathetically responsive to nature, and passionately devoted to an idealism that gives beauty its only justification when it is unified with goodness and truth.

Frederick G. Bonser.



PRINCIPLE FIRST, THEN APPLICATION.

Arthur Wesley Dow,
Professor and Director of Fine Arts.

From an address prepared for the Fourth International Congress of
Art Teachers, Dresden, August, 1912.

I might sum up the theory of teaching in a single phrase, "First study the art, then apply it." This process is often reversed. Pupils are put through long drill-courses in nature-drawing, perspective, historical ornament. They are given application and expected to find the art somehow. In the last Congress I noticed that many courses began with representative drawing—birds' heads, butterflies, autumn leaves, insects, and any good bits of color or line; accidental occurrences of beauty in nature. Pupils attain skill in representing such things, but when they wish to apply their knowledge in a design or a picture they must use principles, of which nature reveals nothing; nature tells us nothing about distribution of hues, balance of masses, oppositions of bright and gray colors, gradations, spacings.

I do not say that Principle may not be reached in a roundabout way through Application—in the case of young children this may be the only approach possible—but it is true that this road is too often followed. For example, architectural design is studied through certain historic forms of ornament and accepted canons of proportion, instead of through appreciation of *Style* (Principle), of which the historic styles are only illustrations; painting is studied through drawing of casts and models instead of through *Structure*, of which these things are only examples.

To begin with, Application is to take first the small, the single case, the particular, and expect to get from it the vast, the universal. It is more logical to get hold of Principle first rather than to hunt for it somewhat aimlessly through Applications.

At the last Congress there were also groups of teachers in each country who had placed principle first, making Design the ground-work. From one city of Switzerland were shown many designs based on the circle. By using a few fundamental ideas of structure a large number of combinations were evolved from the circle, and were applied in woven and printed pattern; in cast and hammered metal; in pottery, woodwork, and book-printing. Hoffman of Vienna has shown that the straight line can be used in an infinite number of ways, from page borders to block-printed fabrics and house interiors. Grasset began his art courses with simple arrangements of geometric figures in spaces. Some of the schools in Holland began with line-design. The two sets of examples quoted above illustrate opposite methods of teaching. Of course much depends on the power of the teacher, and results might be good or bad in either case.

Principle is the great thing, and Application is the small thing. Principle is the master-key to all doors of art. Application may unlock one. By Principle I do not mean a receipt or formula, or anything mechanical, but rather the guiding thoughts, the ways that lead to fine choices of line, tone and color, to discrimination in degrees of harmony. Principle might be called the soul of art, Application its body.

The two parts of art training, then, may be stated as:

1. Principle (ways of producing harmony), appreciated through Design.
2. Application (to use, professional, industrial or to representation).

Principles and Application together may be called Expression, a word often misused.

Harmonies of *Line* and *Tone* underlie every form of Painting, Modelling, Building, Decoration, and Industrial Art; this is one reason why *Design* must be the ground-work of teaching art either for practice or appreciation; a study of design involves *Choosing* of the *Fine*.

It does make a difference then, whether the teacher begins with design (principle) or its application (drawing, shop-work), and the difference is as great as between two systems of philosophy.



THE CORRELATION BETWEEN FINE ART AND INDUSTRIAL ART.

Caroline C. Wood.

Educational magazines tell us repeatedly, in writing of Art and Industry, that we must have correlation, but few tell us how this may be attained. To most teachers in these two subjects it is a terrifying word—terrifying from actual experience—but the fault all comes from indolence or selfishness of those who reiterate outworn traditions rather than take the trouble to solve the problems before them. We of the Fine Arts go on feeling very sorry for ourselves that there is not more sympathy in the Industrial Art Department, and we of the Industrial Art Department do the same.

Why shouldn't we? Pity it is that the many rather than the few have had an identical or similar experience, such as the following. Let us suppose in the Art Department we are to make a design for a wooden box, for a piece of weaving, or a dress. Perhaps we, the pupil and I, have enjoyed working for a beautiful thing, have experienced the emotion, the joy of invention and the tension of research that went with it; with pride we take it to be "carried out." The Industrial Art teacher glances at it and says crushingly, "It is impractical;" then adds in a glance, "But what can you expect of people who know only Art?" We leave her, feeling the truth of her estimate perhaps, but with hope and enthusiasm gone.

The Industrial Art teacher, on the other hand, quite removed from the Art Department, on the fourth floor, in the basement or somewhere at a distance, is thinking of a problem, not for the sake of the thing itself but in connection with the many really good things this will involve to help the future citizen, to make him broader in his view, more sympathetic, etc., and she has in mind a book-case, a book-cover in which to keep precious notes, or it may be a piece of pottery. She goes enthusiastically to our Fine Arts teacher, tells her about it, shows how much it will mean

to that particular pupil, etc. The Art teacher will listen, then in a bored way will remark, "That is so commonplace; I don't like the shape of it," and in the usual indefinite way asks us if we cannot feel that the shape is wrong. She tells us we ought to go to some museum and see some of the best examples of hand craft, or read some authorities on the subject so that we might know what good designs really are. Very good advice, but we leave her feeling very stupid, inartistic and blunt in "experienced art," and vowing to ourselves that when we want decoration on our things we will do it ourselves or try to get help somewhere else.

Why should this be? Art in its right estate and everything connected with art should make the actual world better, a more beautiful place to live in, and should create ideals. So Industry if exerting its proper function should keep us human, hold the world together paternally and help us to live out these ideals.

Many have thought of this subject of correlation and agree that the reason for this lack is that, with us all, our first impulse is to give a destructive rather than a constructive criticism. The best correlation can result only from a willingness on the part of teachers to use the materials at hand and to embrace in their suggestions, when necessary, modern industrial methods; and the industrial worker must be more ready to look beyond technicalities and skill to broad art principles. Art, if it is to be a determining factor in modern life, must take into its province modern problems and modern conditions of living, and, on the other hand, industry must be lightened and stimulated by the creative joy that can come to it only through art.



THE NEW MOVEMENT IN ART.

Alon Bement,
Assistant Professor of Fine Arts.

It may be considered by many to be unnecessary to make any reference to the Futurist or so-called Cubist movement at this time. It is extreme and it *does* deal in unrealities. Its manners are not painter-like and its language is for the most part unknown to us, but its intent is commendable enough to warrant some consideration.

The movement came into existence some two or three years ago in Paris. It is a part of the phenomena of the new religions. A child of "post-impressionism" and religious unrest, a more or less logical attempt to transfer some of the new thought ideas to canvas, to play upon the emotions according to the most advanced methods, i. e., through the subconscious mind.

Fifty years ago academic painters endeavored to reproduce their thought by accurate representations of material forms in light and dark. They drew line with exceeding care and modelled every form with the most exact nicety. Meissonier even went so far in his endeavor to reproduce motion as to have a circular railway built, upon which he established himself with his canvas and tried to draw the galloping horse by the side of the car. The experiment was not successful for reasons that are obvious to those people that have studied instantaneous photographs of running horses. There are certain places in the outline that always are blurred.

Now the Futurist movement is a logical sequence of the thought begun Meissonier's endeavor to reproduce motion. They recognize the fact that there are many areas in every canvas that mean little to the observer. They choose what seems to them to be the salient points, those places in the mass that can most easily be observed by the eye and conveyed to the brain, and paint these parts clearly, surrounding them by a group of geometric forms so placed

and so colored as to give the same impressions or mood that the actual observing of the masses would give. In a measure, this is logical. Suppose, for instance, you observed a falling building. No eye could be so accurate or rapid as to convey anything more than an impression of what happened. There would be a glimpse here or there of a falling wall, an edge would make itself clear, or perhaps a broken beam stand out, but the spaces between would be vague in memory or left entirely to the imagination. It is to the filling of these spaces that the Futurist bends his endeavor. Rather than leave the field open to accident, he chooses a conventional form. Admitting that angular lines are more rugged than round, and that pyramids and cubes are the strangest forms in art, you have the entering wedge of the Futurist argument.

What the Academicians did by literalism in light and dark the impressionist followed up by idealism in color. What the impressionists failed to do in their exaggeration of color the Futurists are trying to do with geometric forms, endeavoring to give a spiritual (perhaps the word is not well chosen) representation by a combination of these methods. Knowing that the eye will not convey all the impressions of a dense, moving crowd, or the whirl of a dance, to the brain, they draw a face, a hand, or a foot, and set between them whirling cubes or pyramids. Whether it is art or not the next generation will have to decide. Certain it is that some of the arrangements, though chaotic, are powerful. That all Paris is now engaged in loud outcries against the movement proves nothing. Paris is always full of outcries on artistic subjects, and out of just such a contention not a quarter of a century ago came Monet with impressionism. We may even now stand on the threshold of a new era in art, but as yet there has risen no single personality strong enough to settle the question of the future of this movement.

A HIGH SCHOOL PROBLEM COMBINING THE FINE AND INDUSTRIAL ARTS.

Leon Loyal Winslow.

There are no problems of more interest to the worker in copper and brass, than those which combine glass and metal. Through the use of these materials many beautiful color schemes may be worked out. In the lamp shown in the illustrations the copper was colored chemically. A delicate green resulted, contrasting well with the darker green of the stained glass. These tones prevail throughout, with the exception of the square window in the top, and the smaller ones, also square, in the corners of the shade. The large window is of an amber color; the smaller ones, ruby. The effect is harmonious and rich; a small quantity of brilliant color giving an accent not at all obtrusive.

The designing and constructing of a lamp of this kind easily lends itself to work in the high school. When undertaken simply, the project is not difficult. The student starts out with two ideals definitely in mind: the lamp must satisfy the demands made upon it by utility; it must also justify itself from the standpoint of beauty. The essential parts of a lamp are the base, the upright and the shade. The student may represent these parts graphically by three large spaces, which he is careful so to proportion that they may be of unequal size and shape, as far as possible. As the lamp must rest firmly wherever it is to be placed, he designs the lower shape in such a way that it may appear to support the others.

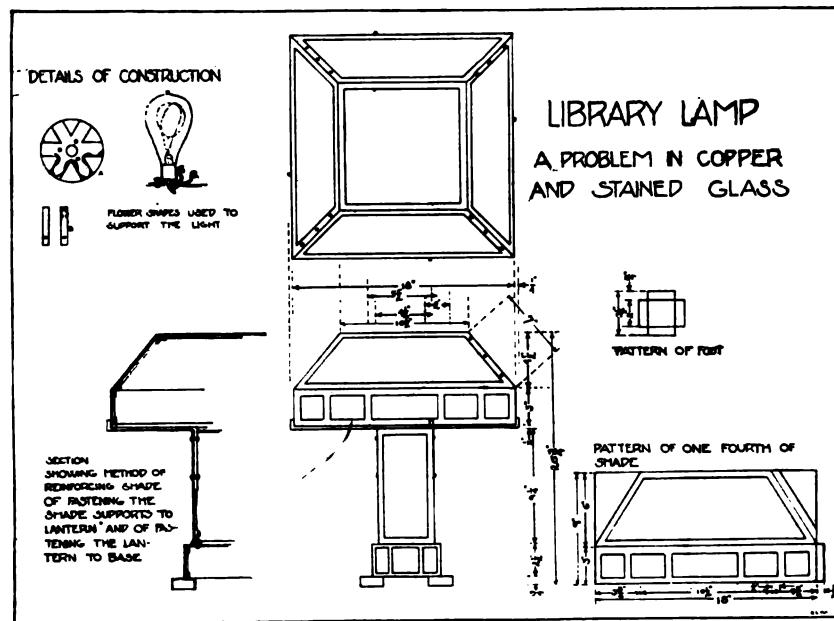
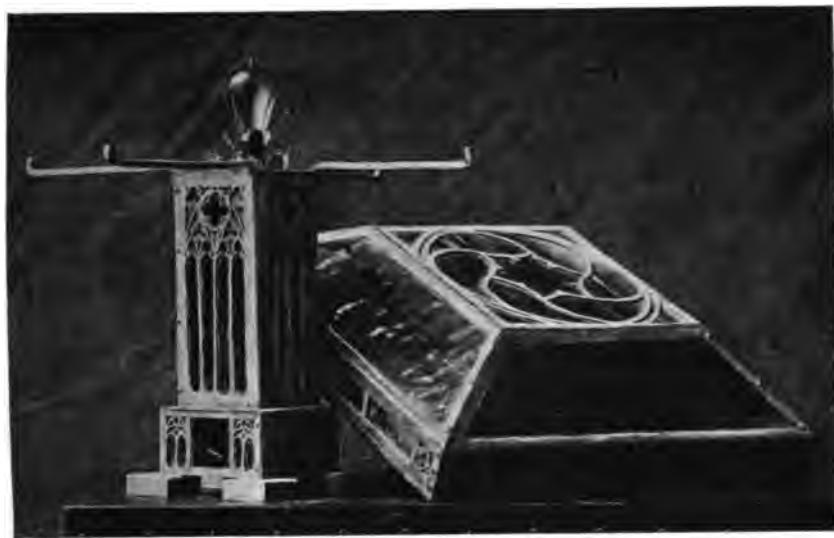
In the three shapes already drawn, there are verticals, horizontals and obliques, all of which may be regarded as lines of construction. If these be repeated, the apparent strength is greatly increased. Thus the window frames are formed by the drawing of lines within each shape, parallel to those already drawn. These lines are placed one-half inch inside the large shapes, that plenty of metal may be allowed for fastening the parts together. The large windows may be divided to form smaller ones. Now comes

an opportunity for decoration. The unequal division of space and the repeating of construction lines must continually be kept in mind. The student must think of his design as a unit; each window, though complete in itself, must also be considered as a small part contributing to the whole.

The sheet copper used is gage no. 20. Stock for the several parts is first cut in the rough, after which each piece is laid out accurately and worked to squareness and size. The windows are located, and the designs transferred to the metal. In all places where a portion is to be cut out, a small hole must be drilled to receive the saw. After sawing and finishing, the sheets of metal are placed in a vise, between two pieces of wood, in which position they are folded with the mallet. Blocks of hard wood are then cut to the inside dimensions of the base and upright parts, and the final truing is done over these. But the shade, being in five pieces, will not be trued in this way.

It is well to assemble the shade first. Three one-eighth inch holes are drilled at each oblique lap, and three at each vertical lap. The sides of the shade are then fastened together with button-head copper rivets one-quarter inch long, with shank diameter of one-eighth inch. The square top of the shade is riveted in like manner to the laps at the top of the oblique sides. In the illustrations, these parts are shown united with hard solder, a more difficult process, but one that answers the purpose no better than the riveting. Because of the thinness of the copper and the size of the shade, there should be some kind of reinforcement. In the photograph it will be seen that two thicknesses of copper were soldered to the lower edges of the shade for this purpose. But here, too, soldering may be avoided by the use of a square copper rod one-quarter inch in section, which, bent to conform to the shape of the shade, is riveted to its inside edge. This method is shown in the mechanical drawing. The rivets used here are three-eighths inch in length; otherwise, the same as those mentioned above.

The upright part of the lamp is now put together, and four rods, one-quarter inch square in section, are prepared to support the



Designed and executed in Mr. Edward Thatcher's metal working class.

shade. Each is fixed in place by three-eighth inch rivets, as before. The top of the upright part is then hard soldered in place. Upon this a support for the incandescent bulb is riveted. A one-quarter inch hole is drilled through the top of the upright and the bulb support, through which the wires will pass.

The base of the lamp is assembled in the same manner as the upright. Square copper rods, to which both are riveted, hold the two parts together. The four legs beneath the base are little boxes, cut out, formed over blocks of wood and hard soldered together and to the base.

Little clips of metal are soft soldered to the inside edges of the various parts, for holding the glass. All superfluous solder is scraped off, and the entire frame is rubbed clean with a fine emery cloth. It is then put in the pickle, where all stains are removed. The metal is now ready for coloring. A beautiful green is produced by applying vinegar containing, in solution, blue vitriol and common salt, equal parts of each. This liquid may be put on with a brush. When the metal is placed in the sun, a poisonous green powder is formed, which may be preserved by a coat of banana oil. Samples of stained glass may now be procured from the dealer, and successful color schemes will be determined, the student remembering to choose one general or predominating color, accented by a small quantity of brilliant, though harmonious, color.

If the student prefers to design his lamp for gas or oil, he must leave an opening in the top of the shade; in the illustration, the six-pointed star unit. If oil is to be used, a storage tank for the same will be introduced within the upright.





A SUMMONS.

Grace Taylor.

Work, Craftsman, work! and with thy hands
Shape lovely forms with thy best art,
Forgetful of the throng's demands
And vain display in crowded mart—
Machine's mad whirl, no other thought
Save grasp of lucre's greedy gain!
But under skillful fingers wrought
May lands grow bright, may beauty reign.
Let potter mould, let hand wheel sing,
In busy loom let shuttle ply;
Wield chisel, file; let anvil ring;
Let brush lend hues of Heaven's sky.
Wake, Craftsman, work! and with thy guile
Win beauty evermore to smile.



A GENERAL SURVEY OF TYPICAL SCHOOL SYSTEMS WHERE THERE IS NO CORRELATION BETWEEN FINE AND INDUSTRIAL ART.

E. W. Boshart.

As we look about us in search of the best for the development of our schools, we are confronted with one problem that seems to concern every school community. This problem is the inter-relationship of the fine and industrial arts. Space will not permit the discussion of the whole topic here, so we have selected but one phase for present consideration.

In making a study of various school systems, it is clear that in many cases there exists a state of affairs similar to that expressed by a supervisor of drawing in his answers to the following question: "In what way does your work correlate with that of hand work?" His answer was: "Why, I don't know; I know the supervisor of hand work to speak to her, but I don't know of her work." In the same system this question was asked of a school principal: "In what way is the handwork and drawing correlated in your school?" The answer was: "In so far as I can see, there is no correlation. Each supervisor plans her work for each week, and the teachers do their best to follow instructions." "What correlation have you on the part of either or both of these phases, with either arithmetic, geography, or history?" "In answer, I would say, very little, aside from the work of special days, as Washington's Birthday, Thanksgiving, Christmas, and the like."

Conditions like the one cited above are very frequently found. They are not grown up in a night, but are the result of a gradual development from various sources. Some of these might be noted, as follows: First—In the introduction of the work, the drawing teacher or the supervisor was usually first to be employed. After one, two or more years a teacher or supervisor of handwork was selected. It was the exceptional case when both lines of work were put in charge of the same person, or where the two supervisors would work together harmoniously, planning their work as if it

were one unit. Second—The training or preparation of the teacher was oftentimes inadequate. This training, for the most part, took place in the private or special school, or in a single department of a normal school. In all of these instances the work was given with the emphasis upon the one line, without much regard for other matter that might be related to it. In the one case the emphasis has been mostly upon the beautiful in color, in nature, and in form, with the ability to produce or to reproduce by representation, without much attention being given to application. In the other case the work was also specific, and had more to do with a manipulation of tools and materials, for the most part with the design supplied by the instructor or by blue prints. This condition is to be charged to the demands placed upon the school by the student, who, in many cases, could spend but a limited time, and must work either for a specific purpose, or to satisfy a personal desire, and to the demands placed upon schools by their superintendents and boards of education, who demanded a specialist in the one thing, not realizing the existing relationships. Thus the schools catered to the strongest demand, and it has not been many years that they have been urgently demanding the wider preparation. Third—We find, with this indicated preparation, that there has been no lack of enthusiasm for the special subject in hand, and, because of the narrowness of the preparation, the special teacher was not big enough to meet the situation, and, through jealousy and ignorance, has been endeavoring to bring about the divorce of these two intimately related phases of work.

Some noticeable results are to be found in the designs and drawings for pieces of furniture, apparatus and equipment, which could not possibly be constructed. Another result is the great number of constructed pieces, which are positively ugly in form and finish, and out of harmony with their uses and surroundings. I remember a case that will illustrate the point in mind. A boy of high-school grade, wishing to make something to be prized by his mother, as a birthday gift, decided that he would like to make a carved glove-box. Under the care of the instructor in drawing, he laboriously

worked out his idea in a perspective and working drawing. The design for the carving was interesting, and was one which could easily be executed. Upon taking these drawings to the instructor in the shop, he was told that they were very impractical. After some discussion, the young man was permitted to go ahead with the work, but on the second sheet he had a plan which, while it did not change the outward design and form of the box, did modify to quite a degree the method of construction. For some reason the shop instructor released his vigilance, and, in due time, the several carved parts of the box were brought in from the woodcarving room, which was under the supervision of the instructor of drawing. The young man had not heeded the advice of the shop instructor; he had refused to see the difficulties ahead. After puttering around for several sessions of the class, he succeeded in fastening the parts together, but in a way that would be condemned by a mechanic. At about this time an exhibit of art work was given for the benefit of the Teachers' Association. The consternation of the shop instructor can be imagined when, in the midst of the work of woodcarving, he saw this box showing a pair of butt hinges deliberately fastened to the outside of the box, as if they had been a pair of ornamental hinges. The instructor had been careful to demonstrate before his class the method of fitting and putting on a pair of hinges of this type.

This account, of course, illustrates but one side. While the design for the carving was fine in itself, the construction was impractical, and I am confident that, had the shop instructor endeavored to design and make the same piece, he would have had correct construction, but, at the same time, his weakness would have been in the working out of a proper design.

At this point we might well ask ourselves two questions: What is to be gained, and what is to be lost, under such conditions? In answer, I would say, in regard to the first, as forcibly as possible, *nothing*, aside from (a) enmity and one-sided development, and (b) skill in the manipulation of tools and materials, without that feeling to broaden and develop, and without that foundation which

gives firmness and opportunity for growth. In regard to the second, I would say that *everything* is lost. We are taught that the interest of the child is the greatest factor in the process of his education. Under such a condition as that which existed between the drawing and shop teachers, cited above, interest is lost; and for the want of interest, how much is lost, we can not measure.

Compare, if you will, the relationship existing between the interest of a student who is making a design, about which he has talked or heard someone else talk, and who is making the design simply for the sake of making it, with the interest of a student who feels or knows that his work is for a real purpose, and is anticipating its being put to the test of application. The making of a model for the mere sake of making it, has no interest. It is the use to which the thing is to be put and the surroundings in which it is to be placed, which gives the first ideas of feeling. This feeling can, by the wise instructor, be made use of to an almost unlimited degree; and I believe that it is the presence of this feeling in our work that leads forward to successful accomplishment.

We realize how necessary these two phases of work—drawing and construction—are to each other; this idea is spreading day by day. Results are gradually being attained that show the helpfulness of the proper inter-relation with the work in geography, arithmetic, nature study, and the other subjects of the curriculum.

Knowing conditions as they are, it is essential that we, as teachers, do all in our power to develop these inter-relationships, and thus avoid the unnecessary repetition which has so often caused the teaching of the fine and industrial arts to be characterized as a "fad." When they are properly taught, they are of the greatest value in giving a clear insight into the mysteries which surround child life.

SCANDINAVIAN WOODCARVING.

Ethelwyn Lowry.

One of the many delightful things to be seen and studied in "The Land of the Midnight Sun" is the wonderful woodcarving, both ancient and modern.

It would seem that the Scandinavians have been woodcarvers from time immemorial, for the many months of cold with few hours of daylight and the abundance of wood are most favorable to the beautifying of architecture as well as household articles.

These people were carvers long before they were carpenters. The builder was his own designer, decorator and sculptor. This inherent love for the beautiful is seen in their everyday life, in palace and cottage alike. In an old Viking's boat, discovered in a mound in Norway, were found chests, dishes and many utensils of wood, all marvelously carved. This discovery has given to the world an idea of the delightful way in which the Scandinavians of past generations worked. The great dragon as a motive was used in all decoration with great force and vigor.

When Christianity reached Norway, there was an intermingling of Christian and Pagan, and today one sees, in many of the churches, fine examples of carving upon altars, benches and pulpits. Other and rare old pieces are found in the museums at Stockholm, Christiania, and Copenhagen.

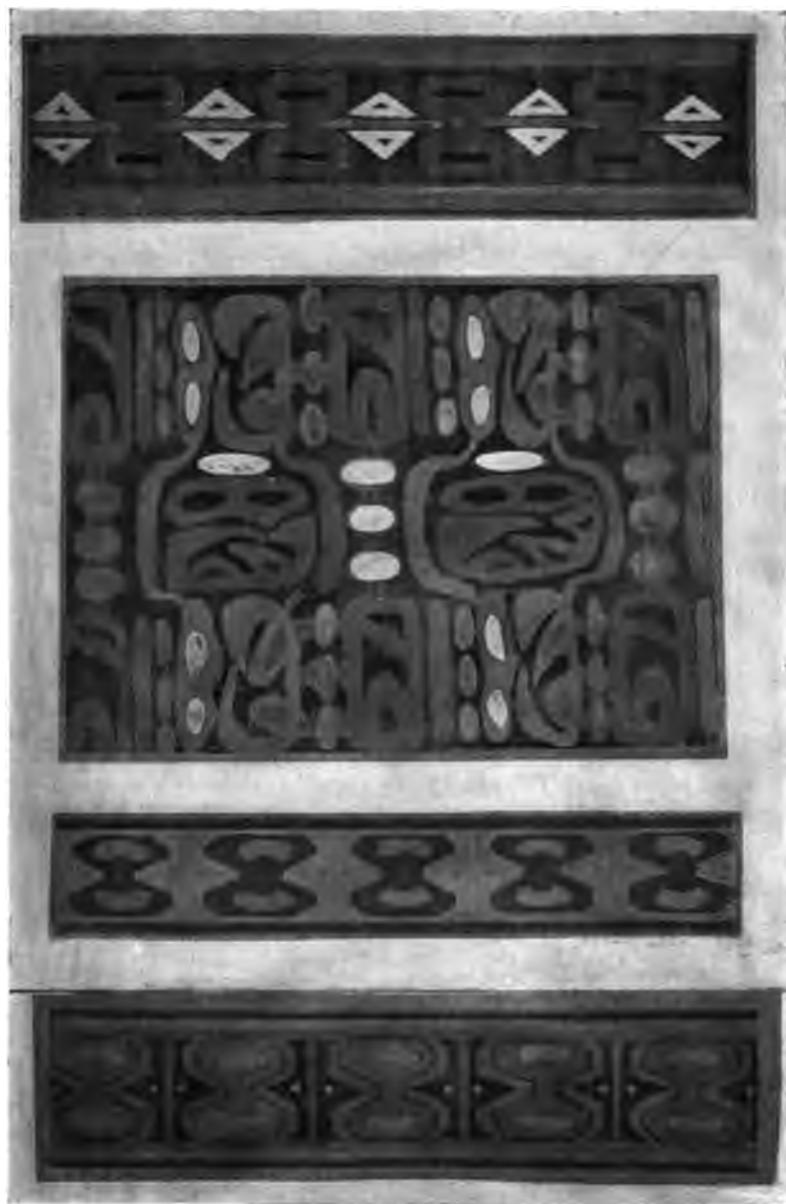
In the Twelfth Century, the Byzantine influence appeared, and we find that flower forms were introduced. But, even when influenced by these intricate overwrought designs, their work has always been distinguished by large and simple forms. How could it be otherwise, with the sea, the snow-covered mountains, the grand ruins close at hand, and the midnight sun arching the dark horizon? Simplicity of design was but the expression of the life of primitive freedom. Small things are soon forgotten, and human thought, to be lasting, must reach to the high and the essential.

The Sloyd system of woodwork, with which we are most familiar, was introduced into Finland in 1866 as a required subject



in the schools; Sweden soon after introduced it, followed by Denmark, and Germany. Beside the technical and Sloyd schools, where the work is of a high order, there are some schools where it is taught by teachers who have volunteered to give their services to the poor children after the regular sessions. So all classes, rich and poor, are given direct instruction.

This national love of working in wood reaches its highest development in the carved figure, which varies in size from a few inches to two feet in height. Most delightful little pieces, taken from life, are, in reality, portrait-figures. The subjects are generally taken from peasant life. Whether "The Market Girl," "The Fisherman," or "The Tramp," each, in a vigorous and happy way, tells its story. The block of wood is to the carver what marble is to the sculptor; for woodcarving is but another form of sculpture. The same principle which has always been found true in painting, design, modeling, or any other field chosen as an avenue of expression, is seen in these little figures, in the choice of individual subjects and in the practice of an unelaborated technique. A labored, sandpapered surface would take away their charm. Upon them are left the tool marks of the carver. The work appears very simple to the uninitiated; but it is in their simplicity that the fascination lies. To see a master, carving these charming little figures and, bit by bit, giving them vitality and sparkle, is a great inspiration; he carves so freely and naturally that one might almost imagine himself before a master carver of the middle ages.



Designs from Primitive Motifs.



Charcoal Landscapes, Grace Cornell.

THE TREND OF INDUSTRIAL EDUCATION.

Eldon L. Usry.

The complexity of our social organization demands a different type of individual from that of a few generations back. With the marvelous development in science and its application to all lines of industry and to the professions, one readily sees that the former inclusiveness demanded in education would now be out of the question. Today the tendency of industry is so to specialize, that the individual worker is almost a part of the machine which he operates. The result is an individual many of whose faculties atrophy through disuse. If the output of every individual be considered as his contribution to society, can such output be of very great worth?

There is danger of carrying specialization too far and of beginning it too soon. The foundation of the social order is made up of its individual members, whose output is social achievement. Society must rest upon a solid foundation. Can we expect this if most of the individuals composing society are narrow in their vision and in their output?

Since so large a number of our people are engaged in industry and will get an industrial education of some kind, be it of a large, broad type or of a small, narrow sort, it behooves us to take some account of the kind of industrial education to be offered. Some of the questions which confront us are:

- I. Is the school the proper place to teach specialization, or should it be a place where the foundation is laid upon which to build the specialized structure?
- II. Is society, that is, the municipality, commonwealth or nation, responsible for the education of the youth without the co-operation of those who are soon to take these same youth into their employ?
- III. Can society afford to increase its expenditure for educational purposes?

I prefer to answer by first outlining a reorganized school system, and then answering the questions through a discussion of the system as outlined. As our schools are now organized the pupil is supposed to receive instruction for twelve years. We all know what a small per cent take advantage of the opportunity offered. Is this the fault of the individual or of society? I should answer, it is the fault of both.

Consider the elementary period to be covered in six years, followed by a secondary period of six years, divided into two equal portions called a junior and a senior high school. We may cut down the elementary period to six years, because all the necessary work done in the elementary school can easily be done in that length of time. The amount of actual good gotten out of the last two years of the elementary school as at present organized is practically of no value. The time for semi-specialization has come by the time the child has completed the six years suggested. Physically and mentally he is ready for it. This differentiation will be begun in the junior high school. A broad foundation for a further specialization will be laid and, at the same time, the pupil will be given an opportunity to find out for what he is best fitted, to a greater extent, at least, than is now possible. The senior high school period will further carry on the specialization, but it will take definite form, and the energies of the pupil and the subject matter of the course will be united toward giving him a fit basis upon which to become an efficient member of society.

We have already answered the first question in part. The school is the place in which the broad foundations should be laid, and it should direct specialization. How is this broad foundation to be laid? By selecting a course of study which will accomplish this end, dynamic, full of living issues, such as the student needs now, not such as he needed several centuries ago. It is not necessary that all subject matter be immediately useful, but it is necessary that we stop aiming at having the child know for the mere sake of knowing. The junior high school will carry on the work of broadening, at the same time opening up the field,

showing the pupil the world as it is to-day, acquainting him with the present as well as the past. This would go a long way toward solving the problem of vocational guidance. By the time the pupil has completed the junior high school he is ready to make some selection of a life work. This selection is to be aided, and at least partially perfected, by the senior high school.

To the second question, how shall the school meet the problem, with or without the aid of the employer, we will now confine the discussion. In this senior high school, where the pupil may have made up his mind as to what line of work he wishes to pursue, the work should be upon a part time basis, save for those who expect to go to college, or who do not expect to go into the industries. The employers of the vicinity must co-operate with the school and must provide opportunity for the student to get practical commercial experience at the same time freeing him from any system of exploitation. The school, on the other hand, must give instruction in the subject matter relative to the branch of industry chosen by the pupil. In no other way, under our present social organization, can we hope to produce an efficient industrial people. It is simply a readjustment of the old apprentice system, with some of the necessities of modern life added.

But how are we going to keep the children in school? By an enforced compulsory school law, of course, requiring attendance. This brings me to the third question, can society afford to increase its expenditure for educational purposes? Under our co-operative system the pupil, at the end of nine years, would be earning a little, which sum would gradually increase. The senior high school period would be carried on practically free of expense to the student, save for those who might devote their entire time to school work, in all probability no larger a per cent than now continue through the high school. Even though the pupil is unable to bear the expense, society can afford to contribute to his support for the sake of the better unit which he will make in the social order. When we think of the amount spent for educational purposes, we neglect the amount spent for preventive or corrective

purposes, which must be spent largely, because of the ignorance of certain members of society.

By providing this education, in a few years the large amount spent for negative purposes would diminish, and the real burden would be little or no greater than at present. Furthermore, social efficiency would be greatly increased.



THE MISSION OF INDUSTRIAL ARTS.

Lois Coffey,
Instructor in Industrial Art.

It is not to force the burdens of toil upon young lives; it is not to hasten children into the monotonous existence of repeating a single process, a thing which the modern factory system is tending to allot to the individual worker; it is not to cast the growing child in the mould of a specific trade; it is not for these aims that we would embody industrial arts in the elementary curriculum. Already, in our factory towns, at least, we may ask, with Mrs. Browning:

“Do you hear the children weeping, O my brothers,

Ere the sorrow comes with years?

The young lambs are bleating in the meadows,

The young birds are chirping in the nest;

The young fawns are playing with the shadows;

The young flowers are blowing toward the west,

But the young, young children, O my brother,

They are weeping in the playtime of the others,

In the country of the free.”

Art seems to have grown out of an attitude of play toward work with textiles, metals, wood, clay, foods, leather and paper. The progress of the race, intellectually and spiritually, seems, in some measure, to be paralleled by a growth in control of these raw materials. The child of today comes into a very complex industrial situation. Acquaintance with it comes all too much from a mercenary standard. Factories have taken industrial processes out of the home. The child of today gets no comprehension of the worth of an industrial product which results from its being the expression of the best thought of the worker.

To give appreciation of the results of human thought as expressed through these materials; to give a wholesome attitude toward a society made up of independent workers; to give the child,

through participation in some of the industrial processes, insight into the meaning of these race activities; to give concrete, tangible expression to the ideas which the growing child gets, through contact with industrial products; to dignify labor through bringing to consciousness the close connection of human toil with the great thought of the world, as expressed in music, literature, painting, sculpture, architecture, and work in clay and metals—these are some of the things which a course in industrial arts in the elementary school can do.



A SERIES OF LESSONS ON THE METAL-WORKING INDUSTRIES.

Dorothy E. Porter.

The object of these lessons, presented to a class of sixth grade children in the Speyer School, was to teach the sources of metals in common use, their adaptability to man's needs, and some industrial processes, by observation and work with metals.

Specimens of iron, steel, tin, zinc, copper, lead, and aluminum were shown to the class and their common uses as well as comparative costs and relative values for specific purposes were discussed.

The Greek myth concerning the Golden Age, the Silver, Bronze, and Iron Ages served to fix in the minds of the children the difference between precious and non-precious metals.

The question as to the sources of metals was next brought up. Copper, a piece of meteorite, and the iron ores, hematite, magnetite, siderite and pyrites, were presented and their differences in color and formation noted, the magnetism in the specimen of magnetite and the meteorite proving of especial interest to the class.

The children's knowledge of geography was used to locate the regions in which these ores are found and this led to a discussion of the reasons for, and means of transportation of ores to such manufacturing centers as Pittsburg and Birmingham. Some post cards showing steam shovels taking ore from mines, and hoisting machines loading it into cars and from the cars into lake steamers served to make the methods of mining and transportation clear.

The smelting process was illustrated by sketches and also the method of making coke, the importance of the latter in the iron industry being emphasized. The processes of steel manufacture were left to a later lesson, when lantern slides showing the operations of the blast furnaces and steel mills at Bethlehem, Pennsylvania, were used to make the explanations clear.

Attention was called to the contrast between modern methods

of casting and hammering metals and those employed by the smith of the Middle Ages, the importance of his work, in making swords, shields, helmets and suits or armor, as well as rejas of cathedrals and bronze statuary, being as great as that of the painters and sculptors of that time.

After the completion of these introductory lessons, the class visited a foundry in order to see how casting is done. At the next lesson preparations for casting a paperweight were begun. Each child made a wooden flask and cut a wood block for a pattern, using his own initial for the decoration. Lead was used for the casting since it could be easily melted.

On another visit to the metal shop the process of copper plating was demonstrated, as it was thought the appearance and usefulness of the paper-weights would be improved by this process. At this time the class was shown how to make a copper bowl. This was for the purpose of learning the effect of hammering on metal and how it is softened by annealing.

The next projects were designed to teach the class how soldering is done. Hat pins, tie pins, and watch fobs of copper involved this process.

It was not possible to show the process of welding in the schoolroom, but a blacksmith shop close by was visited for this purpose.

It was planned to make some zinc etchings, but on account of the lack of necessary equipment this was deferred to another time. The effect of acid on metal was shown, however, by etching designs on the pins and watch fobs.

The subject of alloys was discussed to some extent and it was suggested that this subject would supply material for valuable and interesting experiments for a class of older children. A visit to a large plant where bronzes are made was planned in connection with this lesson.

The correlation of this series of lessons with arithmetic was evident through examples concerning the cost and amount of

material necessary for the projects made, and also the comparative cost of transportation by rail and water.

Longfellow's "Village Blacksmith," "Tubal Cain," by Chas. Mackay, and "The Blacksmith's Song" brought out its literary relationships. Some questions relating to the use of iron and steel in modern construction of buildings, bridges, and war vessels, the waste of iron through rust, and conservation through re-melting old pieces of iron were discussed.

It is perhaps well to state that all the hand work of the series of lessons was done in the schoolroom, with the exception of making the wooden flasks, which was done in the shop.

The lessons have proved of great interest. One member of the class cast an anchor for a boat, another asked about the possibilities of making solder, and still another inquired about the different methods of plating metal.





INDUSTRIAL ARTS BEYOND THE EQUATOR.

Ollie E. Ragon, for Elementary Schools.

Harold Ernest Everley, for Secondary Schools.

Rarely is there an opportunity to introduce the industrial and fine arts into a field so new and full of possibilities as that offered in the position of instructor in the "Escola Complementar," Teachers College, of Porto Alegre, Brazil.

A party of six will leave New York on the twentieth of June for this port, in the state of Rio Grande do Sul. The country is very prosperous, having a rich soil well suited to agriculture. The population of the city is one hundred thousand, and consists largely of the descendants of the early Portuguese, of German and Italian settlers, and of the African slaves. It is an educational center, with excellently equipped schools.

The beginning of the work will be done through an interpreter, as the state language is Portuguese.

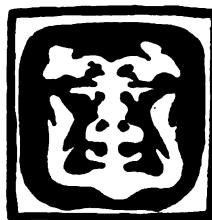
A careful study of the curriculum of the college and also of the elementary and secondary schools will be made before deciding where to begin with plans and projects, to ascertain how best to correlate the subjects taught with industrial and fine arts. Acquaintance will be made with the history of the country, the natural resources and industries, the schools and the social conditions. These subjects will be developed so that the students

and educators of the state must see the vital importance of a close connection between "reading, writing and arithmetic" and the industrial and social world outside of school. This will result in making the outlook on life broader and more beautiful, and in enriching life by the power to select the best and to enjoy what the senses have left unheeded before.

In the "Escola Complementar" the secondary work will include, among other subjects, wood-work, cabinet construction, wood carving, mechanical drawing, and constructive design.

The purpose of introducing industrial art into the college is to train teachers who will be able to go out and teach this subject in the public schools of southern Brazil. Teachers College spirit and attitude toward the work will be carried to the far South, and good, sound standards for judging the value of the work will be used in selecting the subject-matter for the different courses. The work will be made as fully educational as possible beside giving the training value in the manipulation of tools, materials, and processes. A study of industrial and social conditions of the community will also be considered in this subject.

The equipment to be installed for carrying out the work is up-to-date and complete in every respect. The machinery is of the very best quality, and will be driven by electricity. A very liberal appropriation was made to equip the college with every facility to make the work successful. It is the aim of this College of the South to introduce industrial arts into their curriculum in such a way as to be not only a credit to themselves, but also to their sister institutions of the North.





THE EXPRESSIVE LINE.

Edna M. Flarida.

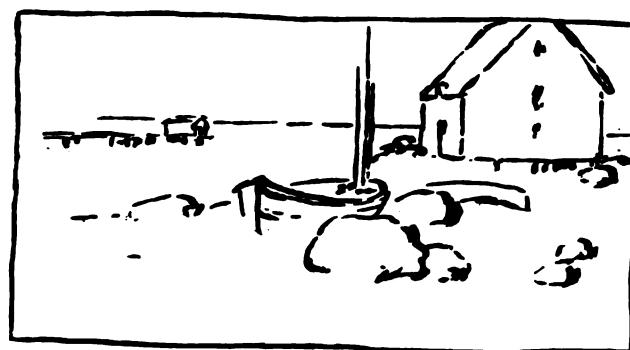
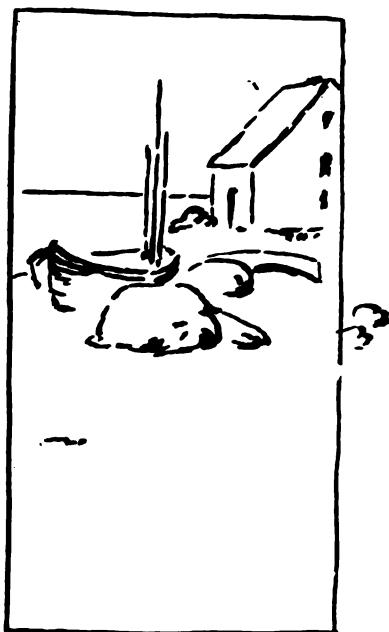
The Chinese and Japanese have far outstripped us in the use of expressive line. Perhaps the reason for this may be that Chinese and Japanese children are taught from infancy to use the brush, an instrument yielding to the slightest emotion, while our children are instructed in the use of pencil and pen, which are unyielding and unsympathetic, at best. Our friends across the sea have learned, through ages of experience, that the physical and mental condition of the individual has a great part to play in producing the soulful line. For this reason they place a great deal of emphasis upon the position of the body, which is held erect, the chest high, to give ample room for free breathing. The center of gravity is kept in the center of the body, the feet being kept firmly upon the floor. The left hand is held upon the paper, palm down, to support the body and allow the right hand to move freely, clear of the table. In this position, the individuality of mind and body manifests itself through the fingers, the distracting elements having been eliminated as far as possible. This is what gives to Japanese characters that quality of line which makes their writing a fine art, and which enables us to distinguish the work of one artist from that of another. A good line can be the product only of a mind filled with a knowledge gained by actual contact with materials and things, and with an appreciation of good composition. No matter what we choose to draw, each object requires a different brush touch. This is more clearly understood if we compare the brush handling for foliage with that for the glazed surface of pottery. The artist must *feel* his surfaces, or the whole will have the effect of a person groping in the dark. He should express them in his own particular way.

Besides texture, a line may express form. It may also indicate light and dark. Practically the only idea which a line may not convey is that of color. A good picture, like a well-told story, should be so composed that a large amount of the detail is but

hinted at; the remainder is left to the imagination. As in a story, too, the center of interest should be led up to, and finally emphasized by a little more detail perhaps, or by a careful arrangement of subordinate interests, that these may support rather than detract from the center.

In a picture in line, lights and darks may be suggested by masses of line or by accented lines. They should bear a pleasing relationship to the composition as a whole, and to each other, creating a harmony as agreeable and pleasant to the eye as a beautiful piece of music is to the ear. The artist's aim should be to impress the spirit of his story upon his audience in the best way he can, using as few lines as he can, and in the simplest way he can.





THE SPIRIT OF BOOKBINDING.

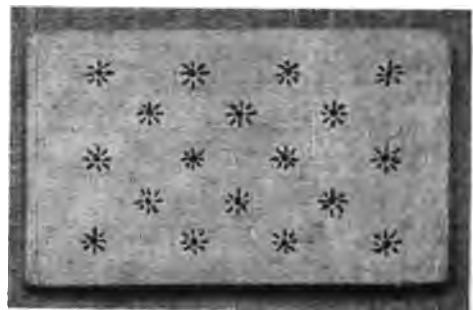
By Sarah J. Freeman,
Instructor in Industrial Art.

"I thank Thee, Heavenly Father, for the power Thou hast given me to fashion my thoughts upon the lines of beauty which Thou hast created. Inspire me always to use the gift worthily to glorify Thee and to bless my fellow men." In such a spirit have writing and the making of books been carried on from time immemorial. In such a spirit the Evolution of the Book may well be illustrated to-day by books made in the home, the class-room, and the shop.

In this evolution man has expressed himself with hand tools and with hand and power machines. With the visible expressing of men's thoughts came writing, with writing the need of clothing this visible expression, and out of this need grew books. The Assyrian inscribed his thoughts on clay tiles moulded like leaves of a book, and strung together a series of these tiles with metal rings. The first figure of the accompanying illustrations represents a series of loose leaves between cloth-covered boards, pierced with holes through which rings of tape have been fastened.

The earliest method of sewing was the stabbed binding, still used by the Chinese and Japanese. Next came the period of monastic binding in the days when a man's whole life was devoted to illuminating one book, spending this lifetime bending over a desk in the scriptorium of the cloisters. Quill and brush were dedicated to the glory of God. In order that these precious books might open well the double vellum leaves, hand written and illuminated, were sewed over vellum or buckskin thongs, laced into wooden boards, sometimes covered with leather and decorated with blind tooling. These craftsmen employed the tools of the shoemaker and saddler, and later called in the goldsmith to further beautify the book covers. Benvenuto Cellini fashioned exquisite gold and jeweled covers. Nuns added their handicraft of embroidery to books of devotion.





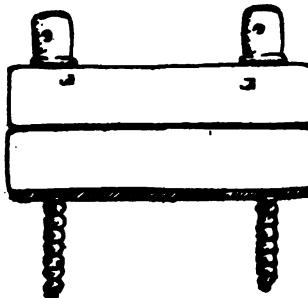
Specimens of Bookbinding for School problems.

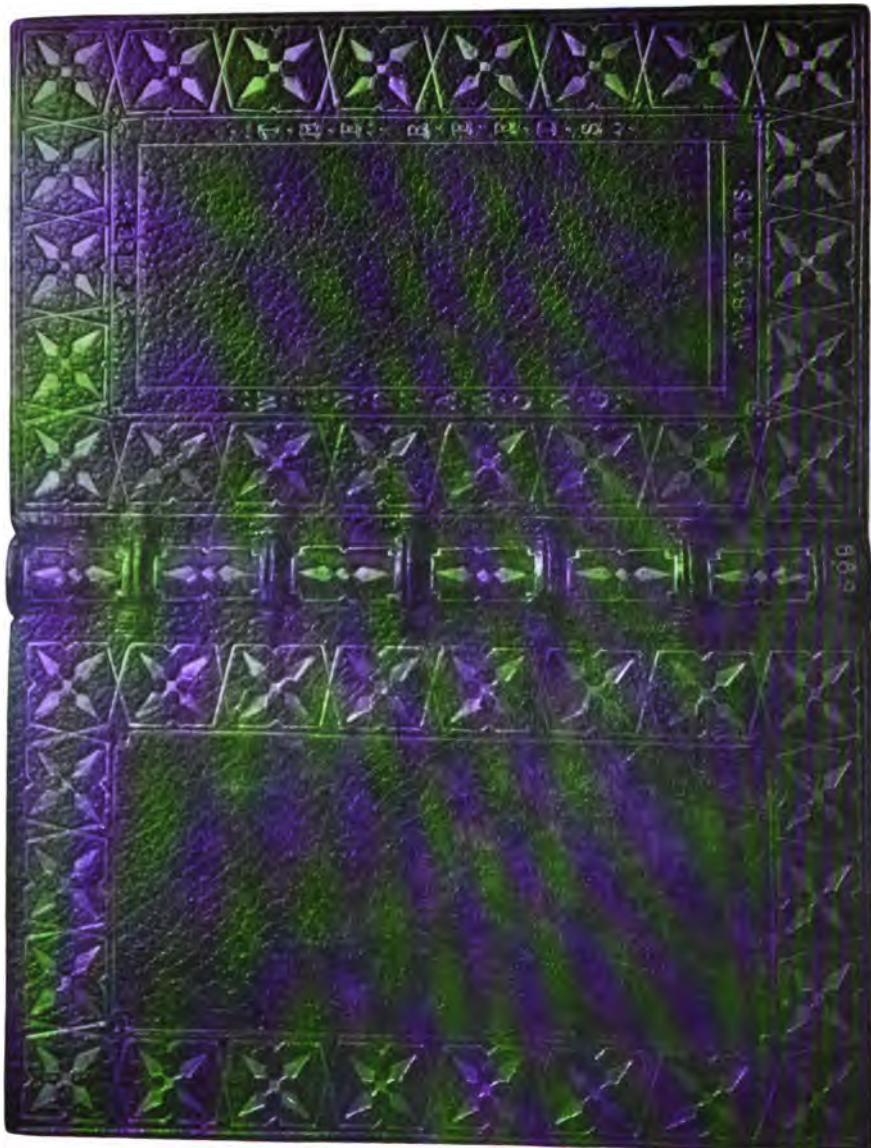
Up to this period in the evolution of the book no machinery had been used in forwarding. Hand presses for book binding appeared when the use of paper and the invention of printing brought books within reach of the people. The only school of bookbinding which has ever existed arose in the sixteenth century, famous for refinement of technique and individuality of design. Connected with this school are the names of Aldus and Jean Grolier. The nearest approach to a school to-day is the English one which was inspired by William Morris and is carried on by Cobden-Sanderson. In those days books were sewed on raised cords and covered with levant morocco.

Travelers, merchants, the Crusaders brought from Persia and the Orient books and saddles decorated with gold tooling and mosaics, which were the bases of design used by the sixteenth century finishers.

Centuries after came power machine work, known to-day as edition binding.

From a social, industrial, art, and ethical standpoint, the evolution of the book may be adequately illustrated in the home, school and shop by a series of simple and technically true books, that the love of the book, both within and without, may grow deeper into daily life.







THE DECORATION OF THE DINING ROOM BY STUDENTS OF THE SPEYER SCHOOL.

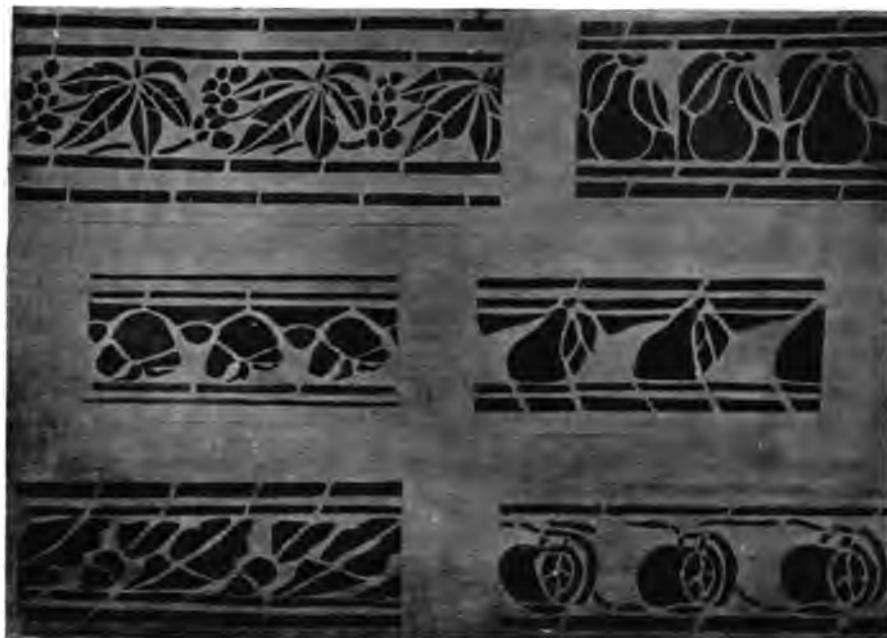
May McClane, Supervisor of the Seventh Grade, Speyer School.

The decoration of the school dining room was the large project proposed and adopted for the school year, to be related, primarily, to the Fine and Industrial Arts. We have correlated it, in every way possible, with other subjects.

The room is much longer than it is wide and has a height of ceiling which is out of proportion. Upon entering it one has the feeling of narrowness. There is one exposure only, and fortunately, it is a southern one, containing a fine, large twin window which admits an abundance of light. There are three doors, one on each side of the room. The floor is made of narrow maple boards and is uncarpeted. There are two built-in cupboards. The ceiling is a deep cream in color, the side walls a warm tan. All the woodwork is of oak, in the dull weathered finish. There are four good chairs and a square dining table, of the same wood and finish.

All of these facts and conditions were noted by the pupils. The difficulties to be encountered were explained and a way of overcoming them by considering line, space arrangements, color harmony and lighting.

We decided to curtain the window and the cupboard, make concrete flower boxes for the broad shelf in the window, a portable serving or side table, a tray, two table runners, a set of linen doilies, and to select a good picture and a rug. The class with the art and the grade teachers went to visit one of the larger house-furnishing stores, where they studied the various model-rooms, selecting the rug and the curtain materials. The teachers' aim was to show the pupils the best and finest, leading them to choose simple things, good in quality, line and proportion, and harmonious in color. The expense was kept within the range of any family represented in the class. Our hope was that the



children would be able to apply what they learned to the improvement and decoration of their own homes, in which the same difficulties are likely to arise.

The treatment of the window was our first consideration. In this problem both boys and girls were concerned. We decided to have face curtains of a fine quality of cream colored cheese-cloth, costing thirty cents per yard. These were to hang full, to have a five-inch hem, and to be undecorated. There were to be outer curtains of cotton repp, costing fifty cents per yard, in a warm, soft tan or drab. These were to have a five-inch hem at the bottom and a three-inch hem upon the front edge. A border was to be stenciled down the front edge and across the bottom. Over these was a plain valance, eighteen inches wide, having a three-inch hem and a stenciled border. The face curtains were machine hemmed by the girls of the class. The valance and the heavy outer curtains were hand hemmed. The girls made original stencil designs under the direction of the art teacher and employed original color schemes and cut the stencils themselves. In the application of the stencil patterns to the fabric, boys and girls worked together. The best quality of oil paint was used. The pupils, at the same time, were taught how to clean and care for stenciled fabrics.

The concrete flower boxes were made entirely by the boys of the class. Working drawings were first made, by the aid of which the wooden forms were constructed. A simple Indian border design in color at the top of the boxes was planned for. By way of preparation for the pouring of the concrete into the forms, the class made a visit to the National Cement Show at Madison Square Garden. Here the boys studied cement, concrete, the machines used in the preparation and handling of the same, the cost of production, its durability, and later, the history of cement and concrete.

One of the cupboards in the room, where there were too many dishes to arrange artistically, was to have a cream colored cheese-cloth curtain back of the glass. The other cupboard was to have

a good arrangement of dishes, the glass in the doors being left uncovered.

The side table was to be of oak, mission style, with a weathered finish. It was to have ball-bearing casters, so that it might be moved about easily. This was entirely a boys' product.

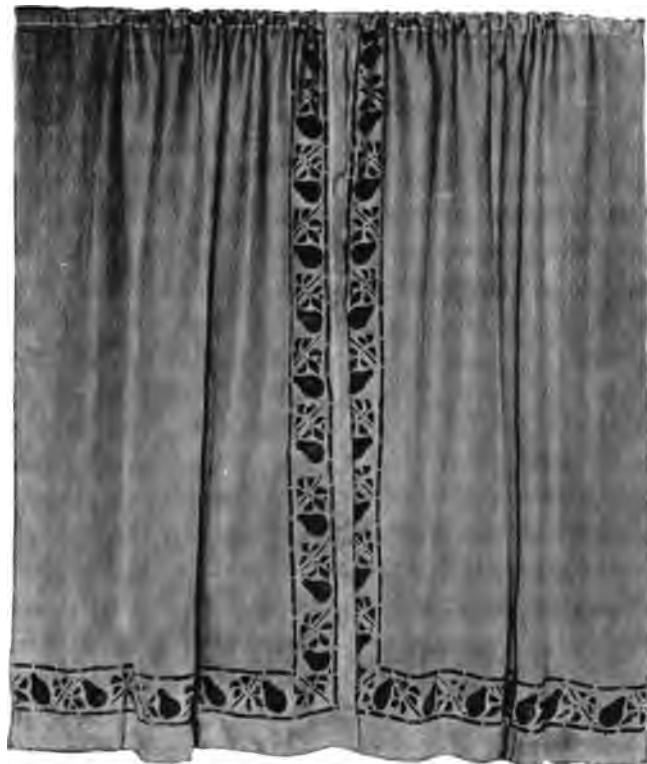
A frame for the tray, in which was placed a glass bottom, under which a beautifully printed fabric was placed, had been selected by a committee chosen by the class from their number. This tray was to stand on the serving table, over which was to hang the picture which was selected by the class and bought by their committee.

The rug chosen was a neutral green, soft in coloring, with a simple design in warm tan, the center being plain.

The runners for the dining and serving tables were of natural colored Russian crash, great care being exercised in choice of tone. The hems were sewed by hand, by the girls. They also stenciled a border upon each end, the stencil and color schemes being selected from those mentioned above. The runners for the dining table were to be crossed in the center, and upon the point of crossing was to be placed a neutral green jardinere containing a fern. The set of linen doilies consisted of twenty-five pieces, including a large center piece, eight plate doilies, eight dessert plate doilies and eight tumbler doilies. These were made from natural colored linen. The planning of them was exclusively in the hands of the supervisor of sewing. Their making included cutting, hemming, blanket stitching and crocheting. This, of course, was a problem for the girls. They were made to realize the desirability for every-day use, at breakfast and luncheon, of doilies rather than a table-cloth; that they were more artistic, more durable, more easily handled in laundering, and cheaper. The pupils also realized the possibilities of hand work and hand-made articles.

A happy conclusion to this eight months of hard but delightful work was the reception day on May 17th, when the class received their parents, friends, the members of the Teachers College faculty

and the staff of the Speyer School. On that day the boys were the hosts and ushers; the girls acted as hostesses, taking turns at serving refreshments prepared by themselves in the Domestic Science class.



CONSIDERATIONS IMPORTANT IN THE APPROACH TO A PROBLEM IN INDUSTRIAL ARTS.

Warren English.

The chair problem is a favorite among high school boys, for nearly every boy has a place where he can use one to advantage. There is a particular satisfaction in possessing a product of his own hands, which can be made a large motive for work in the industrial arts. The boy will find an incentive in the furnishing of his den, the study, or, perhaps, his father's living-room. This offers an opportunity to make use of an actual need from the utilitarian standpoint. The boy responds quite differently to this situation. The instructor's aim should be to teach, through the medium of the chair project, a large body of facts concerning the great industry of furniture manufacturing, and its divisions and relations to other industries.

The work, before actual construction is begun, will lead the boy to do some hard thinking and planning. The uses, sizes, and possible shapes of chairs will have to be considered. The chair must be designed to harmonize with its surroundings; consideration must be given to the other furniture with which it is to be placed, and to the interior finishings. The student, too, will undoubtedly have some idea in his own mind of what he wants. This idea must be made the basis or point from which to work. By pictures of good examples, the instructor may guide his notions of relationships in such a way that a good selection of elements is chosen from these designs. If possible he should now make a visit to a furniture factory, where he will learn which designs are the most practical. If a factory is not accessible, he can at least visit the furniture show-windows, where he will see both good and bad designs. In the meantime, many sketches will have been made, and the best of these selected. This sketch will not be wholly satisfactory, yet with skilful and careful criticism upon the part of the teacher, a

design will finally round itself out which will be the student's own work.

By this time an exact working drawing should be demanded. This will call for a great amount of judgment and accurate thinking. He will need to determine exact sizes for each and every part of the chair, and draw to scale all the niceties of his design. The finished drawing must tell the whole story of construction.

The student will begin to go about the actual working out of his problem. Assuming that his instruction in tool processes has been sufficient, he will carry through to completion the construction of the chair under the supervision of the instructor.

The finishing of the problem should acquaint the boy with the various forms and methods, their advantages and disadvantages.

After the chair has been completed, the pupil is in a much better position to see and appreciate the good and bad in furniture, than he had been previously. A trip to a museum will mean much more to him now. There is an opportunity for the teacher to introduce to him the types of chairs used by past generations, showing him how the designs in furniture have changed in different periods. Here will be found an abundance of rare and beautiful designs, each of which may be placed in its respective historical period. His work was begun with the consideration of a chair designed after modern commercial ideas. Now he will look backward to a study of the most primitive chairs, observing the development of design, construction and finish, throughout each period. He will trace the evolution of the chair, tying it up with history and design, interweaving all completely.

The boy has been in the shop; he has seen machine-made chairs; he realizes the quickness with which furniture is manufactured. The hand work upon a piece of furniture does not play a very important part, according to the modern method of construction, yet the prices demanded for the product are high. An investigation of this leads to questions regarding the relative wages of men; questions regarding strikes and other social problems, freight rates on raw lumber and on the distribution of the finished output.

Geography would be consulted in relation to the lumber industry and manufacture. The question of a protective tariff might finally be discussed.



WEAVING, AN INDUSTRY RELATED TO ART.

Mary A. Sheldon.

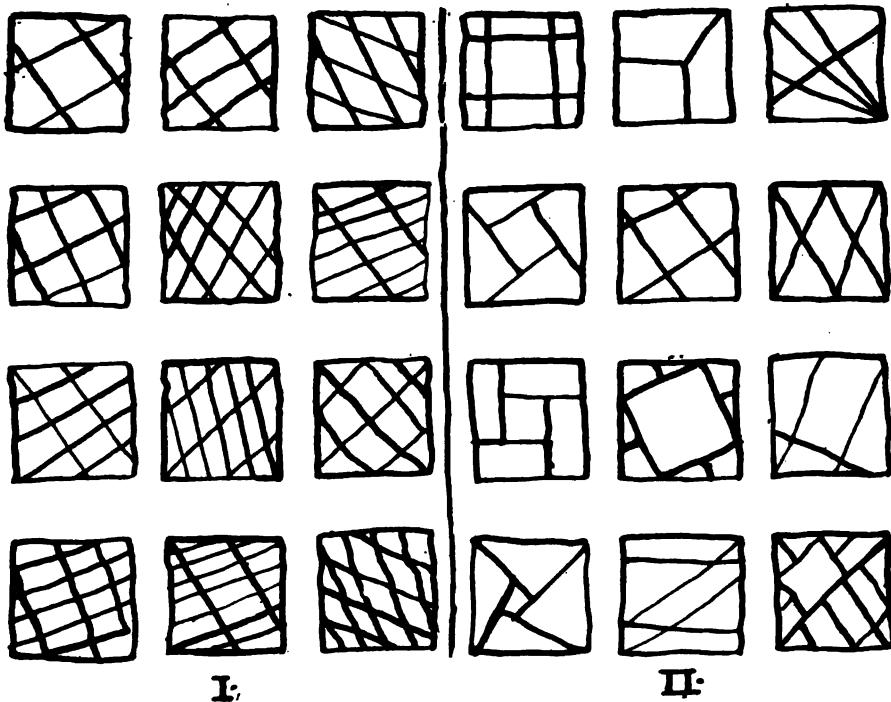
One of the first visual impressions of my childhood is that of a wee girl standing by her mother's knee, intently watching that mother weave tiny mats and baskets from the wayside grasses.

Later in life that same girl, as a student of design, came under the influence of Eugene Grasset of Paris, whose system of design was based upon textile forms—M. Grasset having spent his earlier years in a textile factory. To prove this statement I have traced from my notebook a few of the divisions du carre by M. Grasset, and also a page from a book on "The Study of Textile Design," by Alexander Harper.

The "Mother of the Fates" came spinning into my life again some few years later while at a summer school not far from Boston. The class made an Indian loom of twigs, stones, and cord, and useful as well as charming rush shades were woven for the studio windows. I made a small model of this loom, and on my return to the city gave it to one of my schools. The interest it aroused has without doubt had some influence in the establishment of a weaving department within the year among the graduates of that school.

It may be a far cry from the grass mats of childhood to the intricate looms of to-day, but I venture to assert that long before the fire-maker, the potter, or even the cook, there came into our lives the Mother of the Fates, spinning their threads, drawing them out, and cutting them off. Do not the beasts and the birds—yes, even the fishes—know how to weave?

Many are the legends in both prose and poetry of the invention of the first loom. In an old book on the "Theory and Practice of the Art of Weaving by Hand and Power" the following statement is made as to the existence of an authentic record of the first loom: "The first loom was invented by one Arkeli Ghiden Ghelin when a lad of about seventy years! A drawing of this loom made



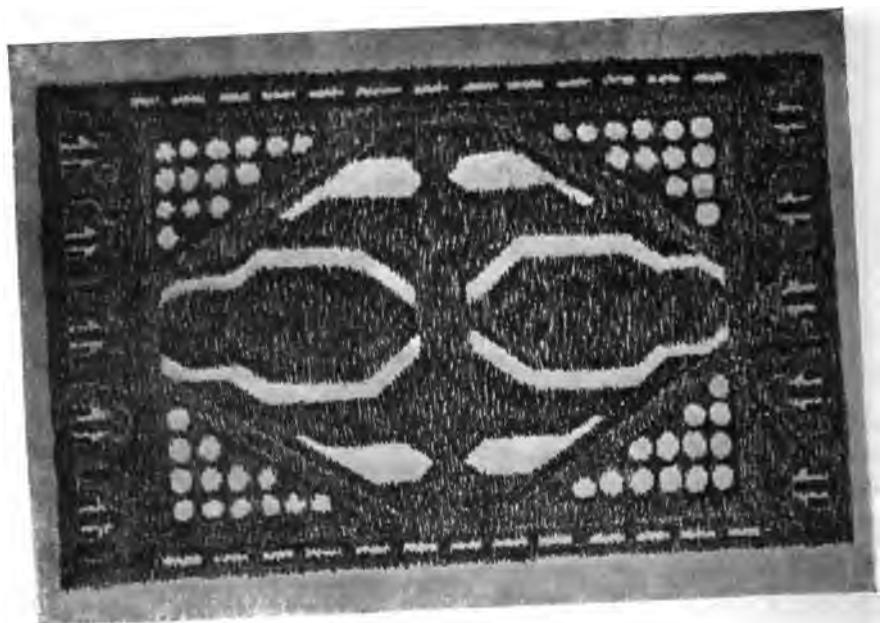
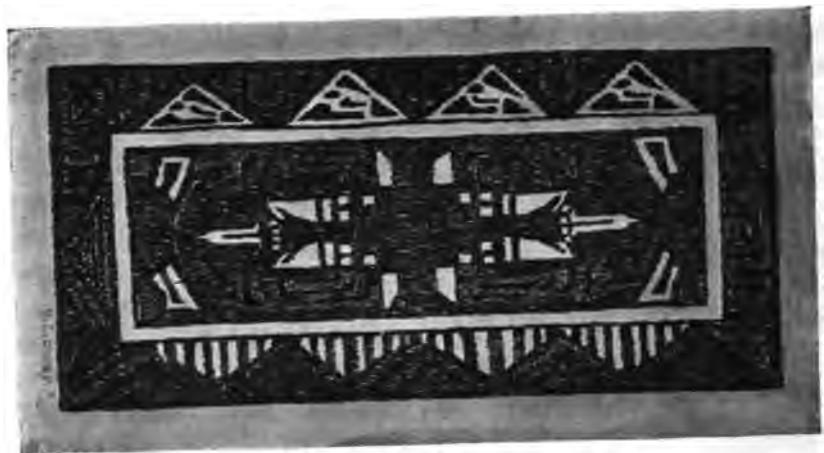
From Harper's
Study of Textile Design.

M. Grasset's method of dividing
a square.

on a parchment scroll was found among the curiosities of Sesac, founder of the Egyptian Dynasty."

In the tombs of Bene Hassan, 3000 B. C., can be seen a relief drawing of a loom singularly like those still in use at the Gobelin's. The vertical chain, warp or web, the cross rods, and the comb used to keep the texture even—none of the essential elements of the high warp loom are wanting.

So many and varied are the opinions on the educational value of the art of weaving I feel hardly justified in quoting more than one or two writers on this subject. John Dewey does not like the term "busy work." He claims all occupations should reproduce, or run parallel to some form of work carried on in social



Rug designs.

life, thus maintaining a balance between the intellectual and the practical phases of experience. This enables us to interpret the stress laid (a) upon personal experimenting, and re-inventing in connection with textile work, and (b) its parallelism with lines of historical development.

The occupations articulate a vast variety of impulses, otherwise separate and spasmodic, into a consistent skeleton with a firm back-bone. In the introduction to a work on textile design by Alfred F. Barker of Bradford Municipal Technical College the author claims "that the primary object of this work is to show clearly how the special knowledge required in the textile industries may be co-ordinated into a truly educational discipline using the knowledge of value for to-day in such a way that the student himself will be a better man to-morrow."

In the Chicago University Elementary School and the Speyer School of Columbia University, conducted by the pedagogical departments of the two universities, the art of weaving is studied in the lower grades; knowledge is acquired through observation, as well as doing. Spindles, reels, and simple looms are made, upon which to weave the wool, silk, cotton or linen, previously prepared. Some years ago, at the Milwaukee Educational and Industrial Conference, John Golden, President of the United Textile Workers of America, made the point, "that pupils in industrial centers must learn the way a thing is done, why it is done, and the very best and most artistic way of doing it, coupled with an economic knowledge of the value of their labor."

Doubtless it is true that dexterity of the hand becomes less and less imperative as the invention of machinery and subdivision of labor proceeds, but it becomes all the more necessary if the workman is to save his life at all, that he should get a sense of his individual relation to the system.

I am sure all will agree with me that the Mothers of the Fates should be admitted to every school, and thus prove their lasting influence toward character building. And what is character building but Fine Art?

OPPORTUNITIES OF THE SCHOOL SHOP FOR EXPERIMENTAL PURPOSES—AN ILLUSTRATION.

Alanson H. Edgerton.

In the woodworking shop of the past the student was required to make joint after joint, receiving a large amount of tool practice, but learning little else of any real value. The required "models" had no connection with everyday life, and, consequently, they did not appeal to him. He did his work in a certain prescribed way, simply because the instructor had told him to do it that way. Under no consideration was the shop to be a place where he might reason things out for himself.

But the school shop of today is different. More freedom is allowed; more of the outside world has been brought in. The student may now work out the *how* and the *why* of the things which he sees in everyday life. The school is endeavoring to make him an intelligent, thoughtful worker, rather than a mere follower of directions. It is trying to adjust him to meet the demands of real life.

The industrial schools, where the time is divided nearly equally between book and shop work, are aiming to unite technical and economic study with drawing and actual tool practice. To the instructor of today there is offered a wonderful field for experimental work along the lines of economy of time and economy in method.

An industrial school of this character had recently been opened, and I was engaged as one of the instructors. As the building was new, an opportunity was offered for the boys to make various articles for the school. An order for fifty boxes, in which seeds were to be planted, was sent down to us from the biological laboratory. As the next period was to be spent in mathematics, the boys took the problem with them to that class, and there discussed the boxes thoroughly, deciding upon the methods to be followed, determining the sizes of each piece of stock, and figuring out the amount of lumber necessary. The instructor did not dictate to the boys, but



**Third set of boxes—Made by boys who had used the circular saw in
making their second box.**



Third set of boxes—Made by boys who had used hand tools only..

tried to make them feel that they were all working together for the best results. At the close of the period each had made a sketch, including all of the dimensions necessary. During the next shop period, each of the twelve members of the class went to the lumber rack, took down his material, and made a box, using hand tools only. Each was interested from start to finish, as he realized that he was not only making something, but that he was making something worth while.

The next time the class reported, their boxes having been completed, I divided the class into two groups, each group being composed of boys of equal ability, as nearly as I could judge. The six in the first group made their second box with hand tools, just as they had made the first. The other six were allowed to use the circular saw in cutting out their stock nearly to size. Consequently, the boxes which the first group made were somewhat better than their first ones, while those which the second group made, with the help of the circular saw, were quite accurate.

When the class met again, each boy made still another box, this time, all of the class working with hand tools. After the boxes were finished, I examined them closely, and found that the boys who had had the help of the circular saw in making their second box, had done more accurate work the third time, than the other boys who had used only the hand tools. They had also occupied less time in doing it. I kept an account of the time which each spent upon his last box. The six boys in the first group made their respective boxes in 426 minutes, while the other group completed theirs in 348 minutes. This made a difference of 78 minutes between the groups, or an average difference of 13 minutes for each boy.

Since the boys of both groups were of nearly equal ability, I conclude that the making of one box as accurately as possible, with the aid of the circular saw, gave to the boy an inspiration to make the next box just as well by hand. He had received a more vivid visual image of the thing which he was working for, and he lost no time in his effort to attain it. In his eagerness to make a box as

well by hand as the one which he had made with the help of the circular saw, he made it more quickly than he otherwise would. The boy who had used the hand tools only, was given an incentive to do better work, yet he did not have the same idea of accuracy in mind to work for.



Ancient Japanese textile.

PURPOSEFUL DESIGN.

D. S. McFarland.

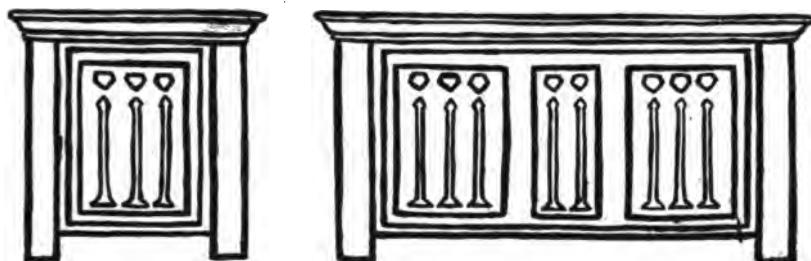
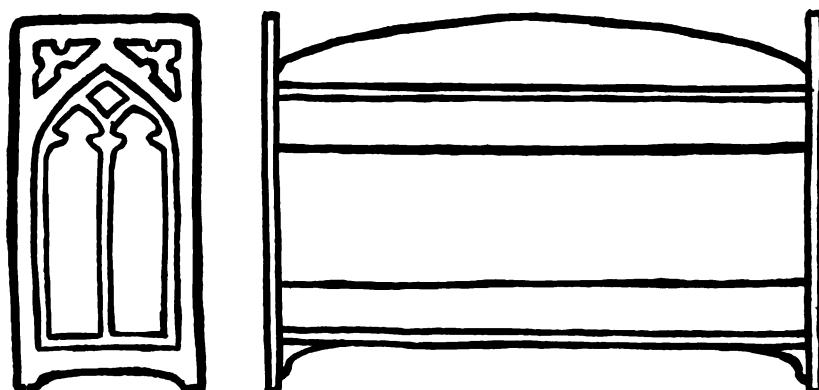
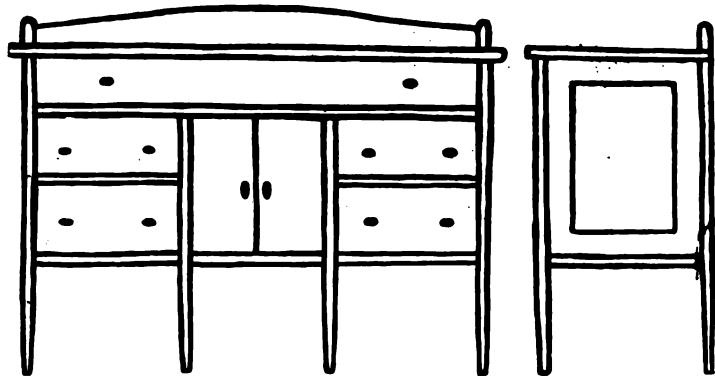
The designer deals primarily with two important elements, space and line, features of supreme importance, whether considered in reference to realistic representation or to the planning of a problem in furniture making.

Division of space will first be considered. Should a square or rectangle be divided by placing within it vertical and horizontal lines, we would find that the result would be either a pleasing and interesting effect, or the opposite. If the spaces are laid off with mathematical precision, monotony is almost certain to result. If unequal spaces, as in the best plaid effects, are produced, the result is pleasing. From this, however, we cannot assume that equal spacing always means monotony; but, merely, that such an effect is highly probable.

There are several pleasing and instructive examples of space division in the accompanying illustrations, which will explain more fully this idea. The simple objects shown were planned by a class in elementary design to illustrate the proper methods of design in simply constructed industrial art projects.

The line is more difficult to master than the division of space. There is a subtle quality to be obtained in the graceful curve of a candlestick or vase which the layman appreciates, and the designer strives to attain. This kind of a line should be the aim of the designer in his creation, but, unhappily, too many have original ideas of the curve which result in wabbly constructions and bizarre creations. Vases are posed upon diminutive bases; bulging candlesticks, never intended for a candle, appear in their company, and under the name of craftsmanship.

A consideration of the sources of design may assist the young designer to a better appreciation of his problem. In the first place, we have, in the world about us, simple materials with which to work. Nature offers trees, flowers, and animals from which we may gain motifs for borders and patterns, as well as graceful



outlines of construction. The waves of the ocean, the sun, and the stars were utilized by savage and semi-civilized peoples in their decorations. The primitive savages carved their canoe paddles in beautiful wave designs; several Indian tribes have used the sun as a motif, in their woven blankets. These peoples seem to have had an instinctive feeling for the fitness of the design to the object.

Besides nature, we have a great store of art treasures embodying the best of the past. Many ideas for space arrangement and motifs may be gained from this source. Most of our large cities have art museums, where such art treasures of the past may be studied. In this relation, however, it is well to remember that age is not a criterion of merit. A vase or bowl may be of the most ancient origin and still be poor in design; on the other hand, it may be the latest creation of our most modern school, and still have distinction and merit.

The material and the object for which the design is intended, should determine what the decoration should be. A pattern which is unique and eminently satisfactory in a vase, if transferred, unchanged, to a basket would be incongruous. Lines found appropriate in the designing of a candlestick in wood might be highly inappropriate when transferred to glass or silver.

Another important factor is the use to which an object is to be put. A few teachers of industrial art have thought to embellish Sloyd models, intended for the kitchen, with carvings. If an object has a daily and an humble use, it should be planned simply, with a view to utility. Useless ornament in such an instance is like a silver mounted harness on a draft mule.

The construction of an object should aid the designer in making his plans. The desk or the table does not exist for the design; the design merely makes the desk or table more pleasing. The mortise and tenon joint in a bookcase may be so exposed as to add to the beauty of the article; the back of a chair may so be shaped as to add to its comfort, at the same time enhancing its beauty.

Much is heard of originality in design. Here it is well to be extremely cautious, lest we be led into freakish and uncertain creations. The artist and the craftsman should join hands in mutual respect, to the end that such art be suppressed. They should come in touch with each other frequently, to the end that better taste and true art and craftsmanship may be perpetuated. The artist should not live in his books; the craftsman should not confine himself to the shop; both should take a wider interest in the great and active world around them, and see therein the wonders open to those who have the power to understand.





Original illustrative compositions.

WHAT ART MEANS TO ME.

To me, art means that harmonious ordering of all things in life which brings tranquillity and a sense of perfect fitness. It means the eternal truths of experience revealed in visible form with the simplicity and sincerity of spontaneous childhood; it means the spiritual insight, the depth of character, the sense of worth, the grasp of the meaning of life, the prophetic vision of the tried experience of old age. It means the calm assurance following from the deep experiences of tragedy and suffering which reveal the permanent worths of life when the varying and vanishing elements of time and place have all been swept away. It means delving into the slow unfolding of God's purposes through the pages of history as these are revealed in the expressions of life values by the peoples of past generations. It means searching into the thoughts and emotions of men, and into the secrets and meanings of nature. It means the rich experiences of converse with the spiritual forces in the isolation of solitude; the exultation of mingling and struggling with the crowd as it sweeps along with its maddening tumult. It means defiance of prejudices and dogmatism; it means a sublime faith in the intuitive standards of idealistic values. It means democracy—that every soul has its birthright from God to enjoy the blessings of beauty, goodness, and truth. It means the shaping of crude earths and metals and woods and fibers into products of beauty that makes their use a joy and their service a sacrament. It means a message from the Eternal that men may see and respond to the creative spirit thus revealed. With all of the tragedy revealed in this progressive evolution of the world from chaos into a world of harmony and beauty, art still means the triumph of a joyous optimism, the spirit of play, the quality of perpetual youth. Whatever the subject of its fancy, in its full realization art always means to me a sweet force that makes the tragedy of life a sacrament, the task of life a song, the leisure of life a symphony.

Frederick G. Bonser.

ELEMENTARY SCHOOL PROBLEMS IN HOUSE-BUILDING ILLUSTRATED BY A PROJECT IN CONCRETE.

Dorothy C. Rowell.

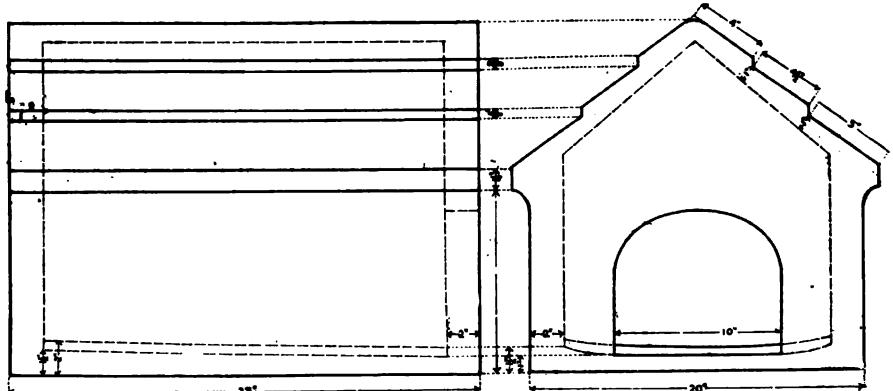
For several weeks a group of students interested in industrial arts have been working out problems relative to house-building, such as might be used in the elementary grades. The thought has been to arrange for projects by means of which the children might gain a real appreciation of fundamental housing problems, including both the building industries, and the appropriate arrangement and furnishing of the home.

An historic study included the tent of Hebrew times, the medieval castle, the Indian wigwam and pueblo, the snow dwelling of the Esquimaux, and the log cabin of pioneer days in America. In each case, the surrounding conditions were considered, in order to find reasons underlying the development of such different types of dwellings, and to appreciate the corresponding varied types of home life represented. Appropriateness to purpose, under the limiting conditions of life and environment, determined each type as to materials, structure, and arrangement.

The same principle of appropriateness is no less evidently a controlling one with regard to modern housing. Compare the arrangement of a summer bungalow on the New England coast, the long, rambling farmhouse seen in certain snow-bound inland valleys, the three-story tenements of Worcester, the proverbial Harlem flat, the more recent lofty apartment house, the suburban home, and many quite different types of the South and West. Structure bears witness to living conditions; to the amassed fortune of the Fifth Avenue millionaire, and the low wages of the factory employee, to the leisure of certain periods of colonial life, and the tremendous pressure, intensity of industrial conditions, and hasty growth of the few past decades, both east and west. Materials have been chosen on the basis of value, which in most cases depends on local sources of supply, and on transportation facilities. Far from railways, from clay banks or stone quarries,



WORKING DRAWING FOR CONCRETE DOG-KENNEL.



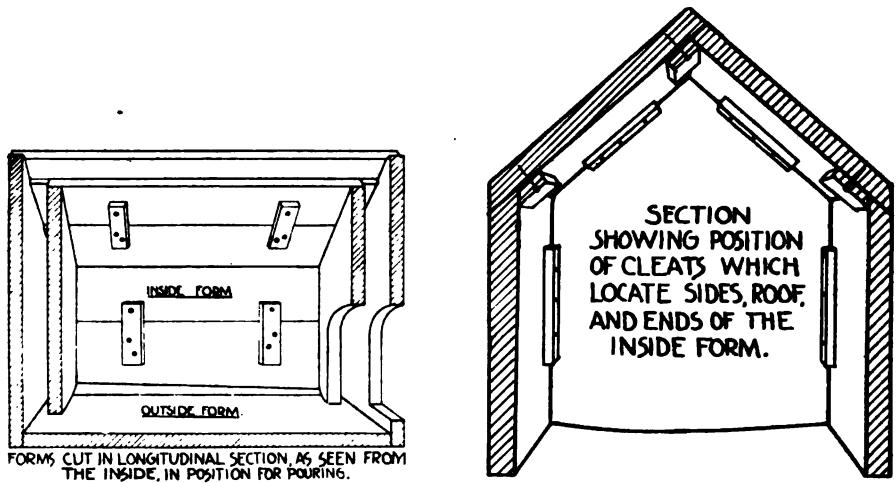
near the forests, and wherever country conditions make lumber less expensive than brick, we find the framed house, which is still typical in many regions, despite the rising value of wood. In cities, where protection against fire is of importance to the community, brick or stone, according to the location, has been more often used.

The most modern development in building, however, has been a surprising increase in the use of concrete, with marked emphasis, since the San Francisco fire, on the importance of re-enforcement. Those who are well informed tell us that, although concrete as a building material is not yet thoroughly understood, there is little doubt of its immense value for the future, when once the material is sufficiently known to be properly used. The sudden and enormous development of the industry has perhaps taken both architects and house purchasers by surprise. From sheer lack of knowledge, design based frankly on concrete structure has been impossible, and the new material is still too often treated as an imitation of stone. Architects are beginning to appreciate the qualities and possibilities of concrete. While problems of structure are being solved by engineers, the aesthetic objections are likewise being overcome, with regard to surface and type of architecture.

When the child of today is grown, may he not need far more to know of the concrete, than of the diminishing type of framed house? Concrete structure is more lasting than that of wood, and popular taste must be quickly developed to demand good design in the homes of future generations. It was with the thought of developing some such appreciative intelligence of the new material, and of the new building industries involved, that the project described below was planned. The smaller bird-house is already familiar as a school project. The re-enforced concrete dog-kennel, poured in one piece, is at least less well known. Some detailed account of the construction may therefore be of interest to teachers in need of a project which should prove stimulating to the interest and efforts of upper grade boys.

The design was developed by means of freehand sketches, suggesting a variety of proportions and details. The best features of these were combined in a full size drawing, more carefully made, and from this, working drawings were made. The walls were two inches thick, the roof one inch at the thinnest parts, and the floor one to two inches, with a decided slope toward the door to allow for washing. The re-enforcement, a skeleton house of half-inch wire netting, was to stand midway in the walls, and as low as possible in the floor and roof, to bear the tensile strain. In planning the exterior, there was an effort to avoid the usual abrupt lines and monotonous surfaces, without making the mould unduly complex. The curve under the eaves, the corresponding curve of the doorway, the decorative panel above, in which appears a conventionalized dog of Egyptian origin, and the proportioned shadowing lines across the roof, were planned with this purpose. The four symbols by the doorway, a torch, a circle, a bird and a triangle, represent four members of the group which designed and constructed the kennel.

The outside form was built up on a board foundation, first the ends, exactly the shape and size of the ends of the kennel, then the sides and roof overlapping. The side boards were planed off to form the curved moulding under the eaves. Straight boards



nailed to the sides completed the fixed part of the form. The roof boards, three on each side, were simply fitted, and left loose to be used later. The inside form was simpler in outline, but the construction involved more thought. The boards had to be narrow enough for removal through the doorway; no fastenings could be used from the outside, and rigidity was necessary. No floor was made for the inside form. Each of the six other faces of the box was made in two longitudinal parts, held together by means of blocks fastened by screws to each part across the joint, inside the form. The parts were nailed together securely from the outside to secure the proper fitting of joints. In order to leave room for the removal of side and roof boards, their ends were distinctly beveled, and the ends of the form were allowed to protrude slightly. To locate parts for joining, cleats were nailed to the roof, as shown in the diagram, also to roof and sides next to the ends, to hold these the desired distance apart. The nails from outside were removed, and the form tied together on the inside by means of stout cord attached to screws or passed under the screwed blocks. The inside form was made waterproof with shellac and oil, the outside with oil only, which seemed as effective. This was neces-

sary in order to keep the boards from warping and swelling with moisture, especially those of the inside form.

A rather rich mixture of concrete was used: one part of cement to one and a half of coarse, sharp, screened sand, and three of "grit," or gravel of about a quarter of an inch. These were well mixed and wetted up as needed with just enough water to come to the surface after thorough tamping. The outside form was set up with the wire re-enforcement, except for the roof, in place. The floor was tamped in, and graded smoothly to a line on the outside mould. Then the inside form was located inside the wire by means of guide lines, and the doorways of the two forms joined by nailing sheet tin around the curve. The walls were raised gradually, always with spading against the forms to bring a good surface, and tamping to exclude air spaces. A simple mixture of sand and cement was used next to the decorative panel, in order to bring out the detail. When the walls were raised to the eaves and near the gable, the wire roof was placed in position, and the roof concrete rammed into place, the three boards on each side being secured in position as needed, with nails and stout cord. The very top was left open, and was simply smoothed off with the trowel in the desired curve.

The forms were removed after twelve hours, the inside first. This might have been done safely even earlier. The use of a floor for the inside is recommended, as the side boards were found sunken into the floor, and were removed with difficulty. The cords were cut loose, the cleats pried off, and the screwed blocks removed, which left the boards free for removal inward. The outside form was removed last. At this stage the concrete was still "green" enough to allow for necessary trimming up of corners. A week or ten days should be allowed for curing, before the project is moved about.





THE EDUCATIONAL VALUE OF PHOTOGRAPHY AS AN ART.

Clarence H. White, Lecturer on Photography.

All art is educative. It educates the artist, in that every expression demands accomplishment; while those for whom he works are enlightened by the new vision of beauty he shows them. Indeed, if we were to seek for a standard by which to measure art we could, probably, find none better than this educational test. For art is the expression, in definite mediums, of the artist's observations and experiences of life. It is his human way of reproducing nature. It is not enough, however, for the artist to be master of his medium—that is a merely mechanical accomplishment: to deserve the name of artist he must be able to reproduce in objective forms what he has seen and felt, so that others, viewing these forms, may have the like experiences. In this reproduction of experience he adds something to nature whic' was not there, namely, himself. It is this addition of himself to the mere facts which makes a work of art a creation and which gives it its own peculiar and desirable value. To be able to do this is to be educated in the highest sense. It is not only to know and to feel but to make known so that others may know and feel. That is the supreme value of all education. The artist, therefore, is the finest teacher, enabling the mind to realize beauty and its consequent joy which he has seen and felt.

Is photography such an art? And is the photographer such an artist? If we can answer these questions in the affirmative then we have in the art of photography, as an expression of the artist, an educative force which may well rank with those other expressions of art, painting, sculpture and music.

As artist, what is it that the painter or sculptor or musician does? In the first place he observes; then he chooses; finally, he records his impressions of what he feels to be the beautiful in nature, in life. His record takes the form either of a painting,

or a piece of sculpture or a manuscript of musical notes to be interpreted by musicians in terms of definite sounds. Plastic art has the advantage over tonal art in that its appeal is direct and immediate, not indirect and mediate through musicians. The particular mediums are utilized by those artists as mechanical aids to the perfection of their expression, and limit that expression. Now this is exactly what is true of the photographer. He uses an entirely new medium, a medium of but half a century's discovery, by means of which to record his observations and his choice of impressions and experiences. To take a camera and a chemically treated square of glass and to record by means of these certain observations is to do no less than the painter does by means of his brush, paints and canvas. The technical skill of draughtsmanship and the use of paints by the painter are on a par with the technical skill of the photographer in his manipulation of his camera and his use of chemicals. In neither case does this technical skill make the person who possesses it an artist. What constitutes the painter an artist is something other than technical skill, and that is his power to create a new thing out of what he has seen and chosen in his medium. To choose is to perform the initial act in the process of creation. It is all ready to see a vision other than what is seen. This the photographer also does, though his medium limits him far more than the canvas and paint limit the painter. The point is, that within his narrow limits the photographer also is an artist.

Without a doubt, every artist must work through some medium; but it is not the medium which makes the artist, it is the man himself who is the artist. And such a man will be an artist whether his medium be wood or clay, words or marble, paint or sound, camera and chemicals or paper and chalks. In the early days of photography, when the daguerreotype was the masterpiece of the photographer, the camera and the sensitized plate were crude instruments crudely employed, and produced crude results, even as the early Assyrian and Egyptian artists. What these mediums might be capable of in the hands of men who were artists





was revealed for the first time in the work of D. O. Hill. But since Hill's day science has splendidly come to the aid of the photographer and has helped him to use his medium in ways that would have been thought remarkable and impossible in Hill's time. The photographer has developed a technique which may be as individual as that of any painter or musician, and just as difficult to acquire. And just as the technique of the etcher or the painter provides its own particular effect of beauty so does now the technique of the photographer give its contribution in a new effect of beauty. And it is a technique capable of almost infinite variations of surface quality, depth, luminosity and color suggestion. Not only is this true, but, as a medium for an artist, photography is capable of expressing personal feeling and personal characteristics of touch and vision in a distinguished manner. The photographer can, practically, compel his lens to see and his chemicals to feel the intricate beauties of nature.

The unique value of photography is that it compels the photographer to the right understanding of those principles of plastic art which underlie the representation of beauty, the principles of choice of form, of light and shade, and of the distribution of masses in space. If the photographer does not understand these principles and how to apply them in his own medium he may photograph, snap and kodak till the heavens fall, and he'll never become an artist. If there be one medium more than another which reveals the artist it is photography. A daub may pass, and often does pass, as art, but a mere photograph is never anything other than a mere photograph. It may pass as a likeness, more or less reminiscent of the subject, but it must stamp itself at once as a creation if it is to be a new thing, a work of art. In this sense, photography is even a more difficult medium than paint, for the artist may be misled by a seeming approach to the reality, and he has to set a stricter command over himself if he is to realize a living vision and not a dead photograph.



THE SYNTHETIC METHOD VS. THE ANALYTIC METHOD IN FINE ART.

Mary Bull Hanckel.

Graphics—correct delineation of the human figure—forms the main subject of the Analytic Method of studying Art. Always draw, paint and reproduce the figure from a model. Learn construction, muscles and planes of what is before you. Continue this analytical work daily for four or five hours, and after nine or ten years you may be an artist. This appears to be the only hope and promise to the average student in the regular art school.

The human being who enters such a school, desirous of being wholly obedient in order to learn what is needed to attain self-expression in art, either follows too trustingly and finds content in the boldest representation of facts, or suffers, work as he may, from a vague dissatisfaction, feeling spiritually and mentally still hungry.

The constant flowing in from without dams the stream of natural invention. The student becomes too replete with outside information to seek within for individual experience. Good modelers, students clever at portraiture, find themselves unable to produce a coherent figure or group of figures without a model from which to copy the form. Looking outward to find form has grown too habitual.

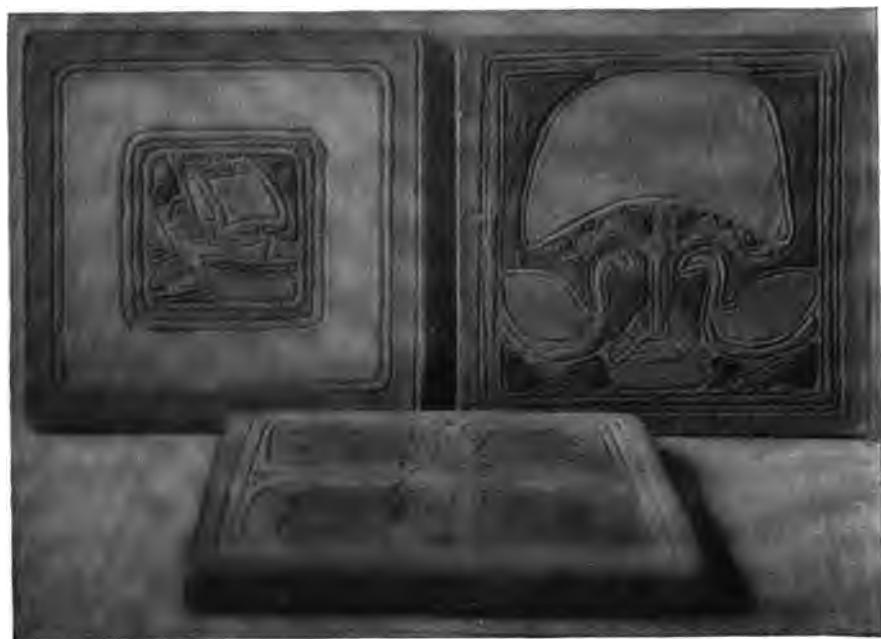
By this plan, one studies for years to attain technique and execution. These attained, what next? Generally, nothing. Of the hundreds that labor in the art schools, but few have any definite goal; fewer still know that art is anything more than what they are working at. They are sure that drawing and modelling from the figure, and painting heads is art, and that when they can do either passably, they will be artists. They learn to perceive technique, and sometimes tone (if it be pointed out to them), in the pictures of the masters. In the case of sculpture, they learn to be highly appreciative of a good muscle, and they know when there is good action. But a unified whole, they do not see. If it be so great

that even they are overcome by something they do not understand, straightway comes the "Response by Analogy," the power is attributed to something they know from their training, seldom the spirit, never the line, never the unity, and less than never the cause of all these. Some do feel the spirit, but for lack of understanding, are apt to sentimentalize vaguely over the expression, and be quite sure that the action and sentiment are doing it all. In fact, their eyes become so obscured to real art, by too great concentration on its minor details, that after a time it is difficult to effect a change. They are hardened in ignorance.

The solid attention of instructors and students remains fixed on the reproducing of the figure to such an extent that if after several years of study the student be unable to continue, he is lost. He cannot find any place for his knowledge in the world. He does not know the aim of what he has been learning, for it has never been shown him. Emphasis has been laid on form, never on the placing of form; and form has no niche ready and waiting for it; that too must be made.

Composition is the same in all arts, whether literature, music, architecture, or sculpture. The theme must be kept clear of confusion. Until this is better known, visual art will not come to its true place. How to make it known is a serious question. If it be not allowed in the schools beyond the first seven or eight grades, maturer minds as a rule will never know it in its most reasonable aspects; or rather, its most reasonable aspects can never be presented, because maturer minds are not permitted to receive them. If even the high school be allowed a little acquaintance with the civilizing power of creativeness, the college stands almost an avowed enemy. If ever the college president be born who will believe that fine appreciation of art is as essential to culture and civilization as fine appreciation of literature, our adult nation will find a closed world open to it. At present, a few youths later seek out the art schools to satisfy their individual needs, but find little enlightenment concerning their quest, as has been already shown.

The hope for future art-understanding lies in the synthetic





method, the utter opposite of the analytic, though analysis plays its part as the servant of synthesis.

The main strength of the synthetic method lies in composition orderly arrangement of ideas. Each student is helped to sing his own song, making it intelligible to himself and others by subjecting it to the laws of proportion, rhythm and harmony. Composing in visual art gives the same practice and experience as that given to the Greek boys when they chanted epics to their own music. It gives suppleness in invention, awakens a sense of creative power and a deeper understanding through actual doing. The ends of Art are studied most thoroughly; for if time be lacking to master the whole, surely it were better to understand the aim of the whole and leave the means thereto for those who can accomplish all. There is cause for belief that means of execution will arrive according to need, when the true aim, clear expression of idea, is realized.

Synthetically, the fundamental of sculpture is considered to be the intrinsic value of beauty. In the analytic, academic school, fundamentals are held to be the construction, muscles and action of the human body.

In the synthetic school, all forms of sculpture, high relief, low relief, and the round are each given their turn, as is their companion in clay modelling, pottery, in which it is possible to represent abstract beauty in its simplest concrete form.

The problems in technique underlying all these, present themselves during the carrying out of original designs, translations of fine examples from photographs into contours, and some careful study of typical construction. They are met individually, according to the circumstances accompanying each design. So, in a way, the students make their own problems in each field and then solve them. A fair solution is required before the work is admitted to rank in the passing grade.

Color and its additions of dark-and-light to the dark and light of relief, follow as a further study when the form itself is complete. Lastly, some of the more enduring forms taken by sculpture

are produced by the students. Part of their work is fired, and so changed into terra cotta and faience of a humble sort. Part is cast in plaster by different processes. Opportunity awaits those whose work is worthy; they may continue further and carry it out in bronze.

Whatever the outcome for the student as a future producer or non-producer of this work, as an appreciator, his mind is likely to be permanently aroused. The best in art will grow more and more visible to him. His sympathy and understanding will be more complete, for any sincere effort at creation, however puny it may be, helps one to realize the elemental and its eternal power of recombination into new forms.



A FIRST GRADE APARTMENT HOUSE.

Bertha M. Bentley, Primary Supervisor, Speyer School.

Last year the children of the first grade made individual frame houses of one room. This year it was decided to make a community house which would approximate the houses in which the children themselves live, and to compare the results of the two years as to which seemed of most value to the children in interpreting the life about them.

The children chose to build their house on the north side of the street facing the south to get as much sunlight as possible. A large court was decided upon to give good air and light to the back rooms. Boxes about 12 in. x 14 in. x 16 in. were collected from neighboring grocery stores and fitted together to make two apartments, a lower and an upper, each having four rooms and bath. The living room and dining room were made to face the south; back of the dining room was the kitchen, then the bath room, and turning an ell, the bed room.

Our next problem was to make windows to let in the light from the court. The children were given stiff paper rectangles 6 in. x 3 in. and told to place them where they would look best as windows. They wanted the windows to be on a line, so they were given rulers and shown how to make the necessary measurements. As the boxes had not yet been nailed together, they could be placed on the floor in a position easy for measuring and cutting. When the papers were well placed, the children marked around them, then bored holes in diagonally opposite corners of the rectangle, and, using a key-hole saw, cut out the windows. Window frames were made after we had discussed the need for them. The children measured and cut two pieces each of 3 inches and $5\frac{1}{2}$ inches from stock one inch by one-quarter inch. These were nailed together, to form frames which would slip into the windows we had cut in our house. Next, the casings for the windows and the ledges were measured, cut out, and nailed in place. Single panes of glass were put in with putty to hold them.

The boxes were now nailed together, and a roof planned. The children were taken to see roofs in the neighborhood, and discovered that they were slanting and were covered with tin or tar and pebbles. After noticing the eave troughs and waste pipes, they decided that the roofs had been made slanting, to let the water run off. They now planned how to let their roof slant a little by placing a one-inch plate on the front of the house, on which the roof should rest. This would give a one-inch slant. They planned the roof boards, but left them for the teacher to cut out, so that they would fit well. The tar paper was then cut to fit the roof, and was nailed on by the children. As the use of tar seemed impracticable, the roof was painted with a tar varnish, and sprinkled with sand. A railing was put all around the edge, "to keep people from falling off."

The children now planned for the use of the roof. One part was for hanging out clothes, the chimney was to be placed over the kitchen, and a playground was placed on another part with a swing, a hammock, and a see-saw, each made by the children. Bricks for the chimney were now made. After thinking out the materials and the plan, moulds were made, each of which would hold three bricks $2 \times 1 \times \frac{1}{2}$ in. The clay was formed into bricks in these moulds, and when it was thoroughly hard the children took them to the College kiln, in which the bricks were fired. While the bricks were being baked, the children painted the house a very light brick color.

While the preceding work had been going on, the time devoted to fine arts had been given to working out a color scheme for the wall paper and rugs. It was decided that there should be a cool color for the very light rooms, and a warm color for the darker rooms. Each child chose a color which he thought would do well, and made a wash. Then a vote was taken as to the best colors for the purposes. As a result, the living-room and dining-room of one apartment have soft blue paper, and these rooms in the other apartment a soft green. One bedroom has a yellow, the other a pink. The same method was used in making the borders for each

room. The paper was ready to put on by the time the outside finishing was completed. The children's experiences were called upon to help in the problem of papering. It was found that paste and paste brushes, clean cloths, and scissors for cutting and trimming were necessary. There was need for care in matching, placing, and handling the paper. The paperhanger and his work, and the interdependence of other people and the paperhanger were discussed. As several periods were required for putting on the paper, and as all of the children could not work at this at once, the making of the rugs to be used in furnishing the house was begun. This gave occupation for all. The children had made blankets for their doll beds before this time, so that they knew how to proceed.

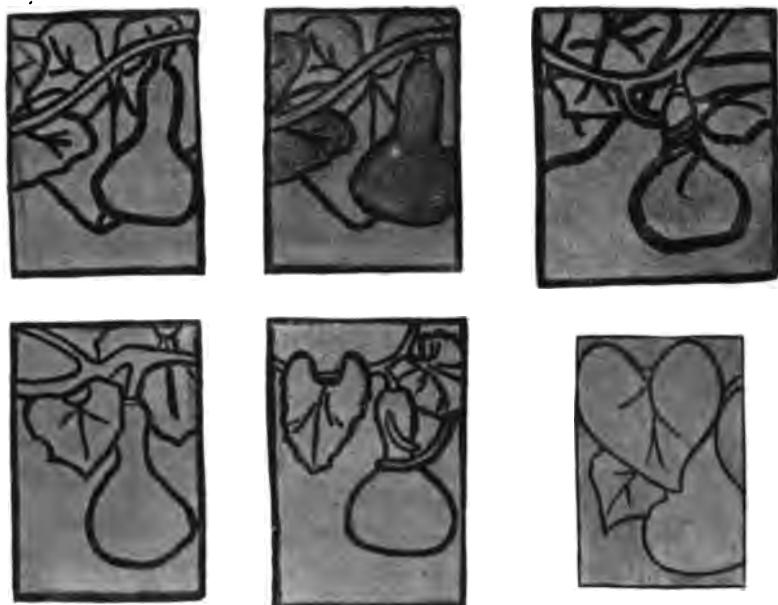
The inside finishing was next taken up, bringing in a review of the work of the carpenter, and a further study of the painter. From observation of our schoolroom, the necessity for baseboards, door frames, and picture molding was seen. We chose white for our woodwork, and for several periods were busy measuring, sawing, and painting. The kitchens and bathrooms were painted because the children were led to see that this would make them sanitary and more easily kept clean.

Another fine art problem was the making of a design suitable for linoleum for the kitchens. Each child was given a square of paper 3×3 in., marked off in one-inch squares; on this he laid small tan squares, with either blue or green squares for the pattern. These he was to work into an original design, and paste. The best two designs were chosen, and used as motifs for all-over designs. These were covered with isinglass, to keep them from getting soiled, and to give the effect of oilcloth or linoleum.

We now built our chimney. The children suggested that they might learn how bricks are laid, by observing the tiling in their bathrooms; they also observed work upon buildings under construction near at hand. They saw the older boys mix the cement, sand, and grit, for making some concrete work, and secured enough of this to lay the bricks for the chimney.

In this problem, it has been the aim, in every step, to give the

children as full a realization as possible, of how much it means to prepare a comfortable and artistic home; how much they are indebted to other people for services given; and in how far others are dependent upon them. As to method, it has been the aim to do as little dictation work as possible, to give the children full freedom to suggest what ought to be done and how to do it; and, when necessary, to send them into their homes or the outside world, to get data to help in solving the problems.



Designs by Speyer School VII Grade.

THE INFLUENCE OF THE ARTS AND CRAFTS MOVEMENT ON WOODWORKING COURSES IN SCHOOLS.

William Noyes,
Assistant Professor in Industrial Arts.

The courses in woodworking in the school shops of America have been through several distinct stages. The earliest, as well as the one that has persisted most tenaciously in high and engineering schools is the Russian system, which consisted essentially in "the analysis of a craft into its elementary processes and constructions, and the presentation of these details in an orderly and sequential scheme." It is formal, rigid, and has proved to be sterile in the larger values required of a shop course. It was this system to which G. Stanley Hall referred as "wooden in its intelligence and iron in its inflexibility." In the elementary school there has existed a system, the Sloyd, which had all of the virtues of the Russian system, namely, careful analysis of processes and arrangement of them, and besides has applied them for useful ends. It has failed in its over-systematization and in the subordination to logical form of vital and interesting factors in constructive work.

These two systems, the Russian and Sloyd, have both yielded to a pervasive force that has affected in our time all domestic and institutional life, the growth of the sense of beauty. In contrast to the Russian and Sloyd systems, this movement is not a system.

Whether it grew up directly or indirectly as a result of the Arts and Crafts movement does not matter. It is a fact, and it has been one of the most helpful, most healthful and vitalizing influences on all kinds of hand work. It has been exceedingly widespread, for the movement has grown up almost spontaneously all over the country. There are some very good reasons why the Arts and Crafts movement has gotten such a strong hold of school hand work. Foremost is the fact that school hand work is largely *hand* work, that is, it is of the craft type. The Arts and Crafts movement originated in a revulsion against machine work and machine processes which were flooding the world with what Car-

lyle called "cheap and nasty" things, with what Ruskin called "illth," rather than wealth, and which led William Morris to give counsel, "Have nothing in your houses which is not useful and which you do not consider beautiful." Morris, Ruskin, Ashbee, Walter Crane and the rest looked back rather longingly to the age of the craft gilds when wares were made by hand by individual producers for individual consumers. Now the school shops to a degree reproduced the conditions under which work in wood, fibre, paper, leather, copper and what-not could be carried on, and once the vision of beauty was seen in the school shop, it was easy for teacher and pupil to worship it. It looks as though we were only at the beginning of this movement for the beautification of the common life, and the schools are bound to play a large part in the diffusion of artistic ideas. Hence no teacher of woodworking can afford to neglect this side. It should permeate his work through and through. It is safe to adopt and adapt Morris' counsel and make it a principle, to have nothing made in his shop which is not useful, and which he does not consider beautiful. From the very first model which he has made, this principle is applicable. This is why so much insistence has been placed, here at Teachers College, upon the design courses. It is especially true of these courses that the more you put into them the more you will get out of them.

This esthetic movement is still in its prime, and we have not yet begun to exhaust its possibilities. Just as the Sloyd system arose appropriately to a social condition where the kitchen was the center of the home, where utilities were of the first importance, so now in American home life, the living-room is the sitting room, and articles suitable for it must be not only useful but beautiful. I conceive that this state of affairs is going to last for some time longer, and while it does it is entirely appropriate for the school to develop artistic taste in furniture and fittings.

Just now the movement for industrial education seems, and rightly seems, of supreme importance, but it would be a fatal mistake to lose what has been attained in the appreciation of beauty.

THE NEW SCHOOL OF PRACTICAL ARTS.

F. H. Sykes,
Director of the School of Practical Arts.

The organization of a new University School is always a matter of importance, and workers in industrial arts and fine arts fields at Teachers College this year may congratulate themselves as having been in the center of things during such an important event. Obedient to the law of differentiation in growth, the faculty and the instruction of Teachers College were recently divided to form two distinct but closely related schools; the School of Education, charged with the professional preparation of teachers, and the School of Practical Arts, concerned with technical training in industrial arts, fine arts, household arts, music, and physical education. These technical departments of Teachers College have been organized into a separate school, and this School of Practical Arts has been authorized to establish a new type of collegiate curriculum which is to give full opportunity for technical training, without regard to preparation for teaching.

In this school, students of either sex may pursue academic studies of collegiate grade in conjunction with, and related to, technical training in the various fields of its activities, thus securing an academic-vocational course, four years in length, leading to the degree of Bachelor of Science in Practical Arts, conferred by Columbia University. Students who wish to teach will transfer to the School of Education of Teachers College in their fourth year and receive the university degree of Bachelor of Science in Education.

In general academic subjects, the School of Practical Arts offers instruction, carefully directed in its bearing on the probable vocation of its students, in English and modern languages, history, mathematics, the physical sciences and hygiene, social science and psychology. For technical training, there are incorporated in the school the technical courses hitherto given in the departments of music, fine arts, industrial arts, household arts, nursing and health and hygiene, and physical training. Students

holding a formal diploma of graduation from any approved high or secondary school are admitted to the School of Practical Arts on certificate from the principal, provided that the high school course has covered four years, and has included certain fundamental courses in English, modern foreign languages, and mathematics. The school reserves the right to restrict the admission to the freshman year, to the number of one hundred and fifty, and to select these according to merit.

The new School of Practical Arts has already, through the consolidation of the existing departments, a registration of 560 students who are candidates for certificates, diplomas, and degrees; 1,627 part-time students, and which, with the 236 students of the summer session of 1911, make a total registration of 2,423 for the current year.

Workers in the Arts and Crafts will be especially interested in the bearing of the organization of the new School of Practical Arts upon the courses in industrial arts and fine arts. One may say, in a word, that the new school conserves and further develops all the opportunities for training which have been available in these fields at Teachers College, and adds to them many new opportunities. The especially striking thing is, that now a technical student who has no thought of teaching, may enter Columbia University for a four-year course, which will include both liberal culture and specialized training in his technical vocation, and receive the degree, the equivalent of that given in other departments of the university.





A TRIBUTE.

Elizabeth V. Colburn.

What does Teachers College stand for in art? Does it aim at mere representation and technique or does it, on the contrary, set as its goal design, composition, appreciation? Anyone who is at all conversant with this course, as given at Teachers College, will emphatically answer that the latter is the end toward which it ever strives. This, anyone will tell you, but has anyone told you that the art course is in itself a great composition?

One might fancifully compare it to a picture by a great master who, from his lofty viewpoint of inspiration, has seen something which he wishes to interpret to others. He cannot tell it immediately to those of limited vision. Yet he can, because of his art, that spark of the divine within him, so transmute it that it will emerge in even greater perfection of beauty than was its original possession. With care he chooses that which is to be the leading interest of his picture. He plans its relation in line, spacing, value and color to the lesser interests which he subordinates with infinite thought and skill. Repeatedly he rejects designs which seem to him inadequate; he is ever unsparing of strength in his intense striving for the finest spacing and expression, taking care, all the while, that his materials and surroundings shall be such as shall aid in the expression of his thought. It is needless to describe the weeks and months of unwearied, joyous effort required to produce

that which, when finished, is so complete and yet so wonderfully simple and direct as to seem effortless. The artist looks upon his work and sees that it is good, that it satisfies, that it carries the message, and to him comes the joy of achievement, of pure creation. He knows that he has gone beyond mere representation, and that he has succeeded in embodying all his sense of beauty in concrete form, a work of art, which shall remain a thing of beauty and a joy forever to all who may behold it.

After this fashion has our master worked. From his higher view of the field of art, he has caught glimpses of more than we can comprehend, more even than he can interpret to us. He has chosen carefully the message which he wishes us to carry to the children of the world and he has chosen with equal care the materials for the expression of this message. He has felt that the ability to choose and appreciate the fine and noble in art should be the central ideal of all our work, and has accordingly, subordinated all lesser ends to this. The sympathetic co-operation of those who work with him makes possible that peculiar unity of purpose, so rare and so vitally significant, which characterizes all that he does.

The years of changing, planning, spacing, subordinating, afford ever fresh opportunity for the expression of his thought for us. Few, perhaps, realize the tireless care with which the master develops in us the "art sense," the feeling for beauty, which is art's vital message to the world.

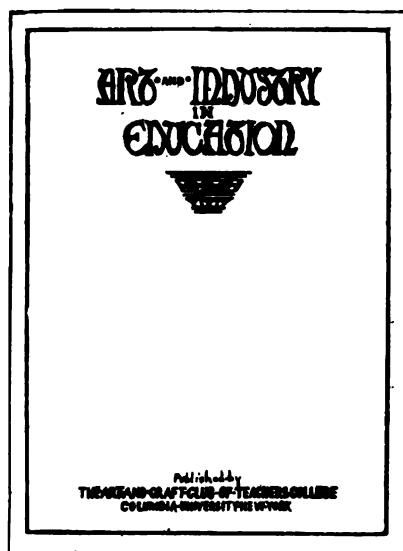
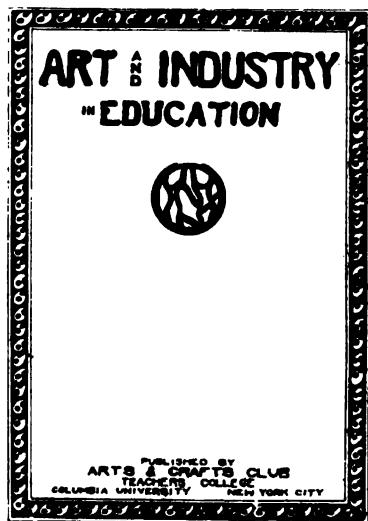
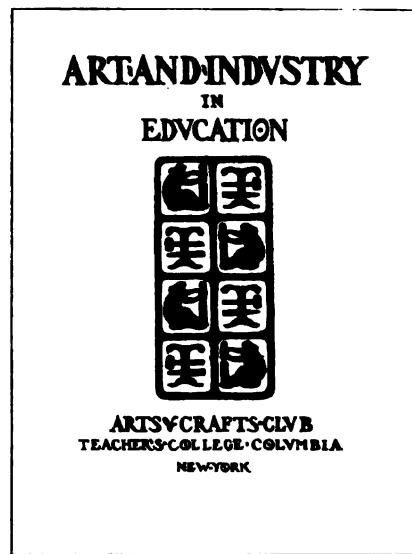
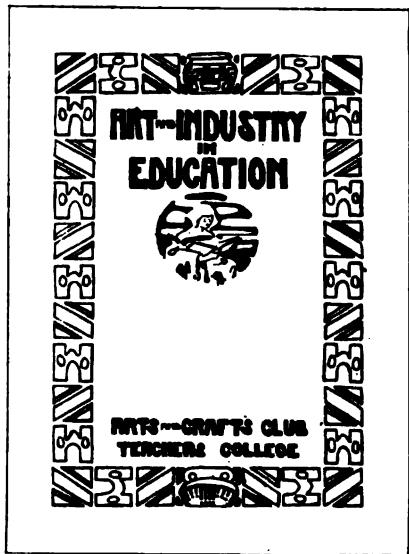


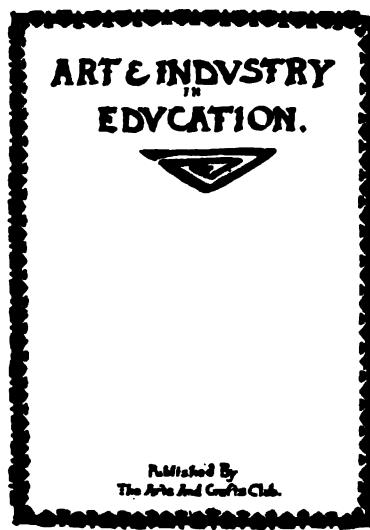
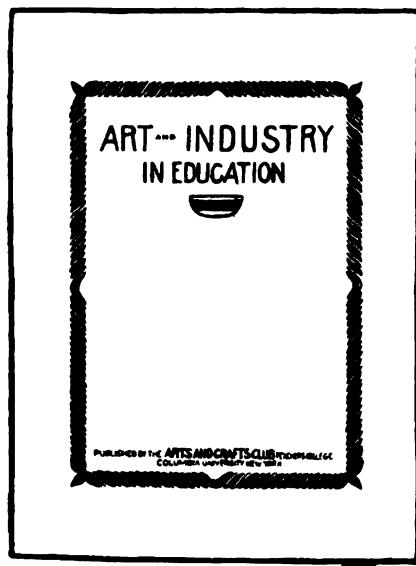
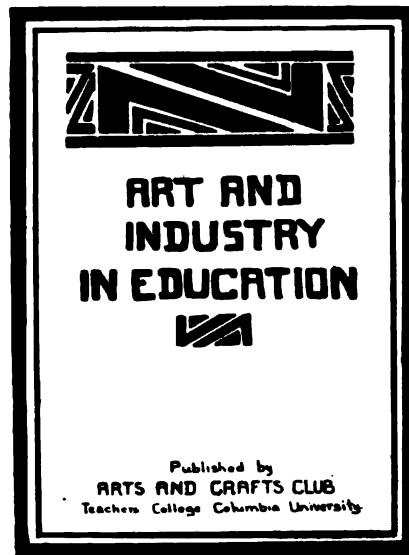
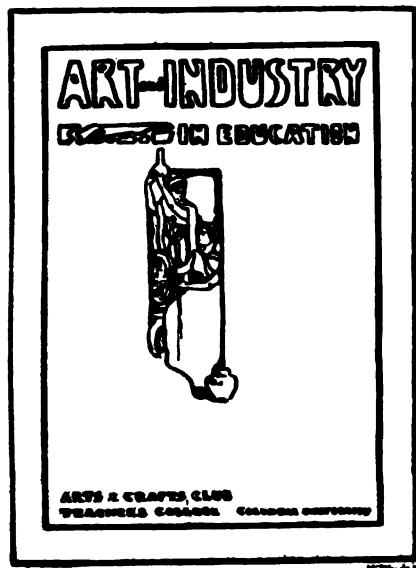




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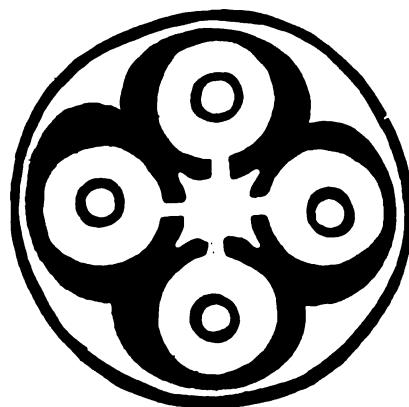




Copied in brush line from a textile.



Adaptation to stained glass design.

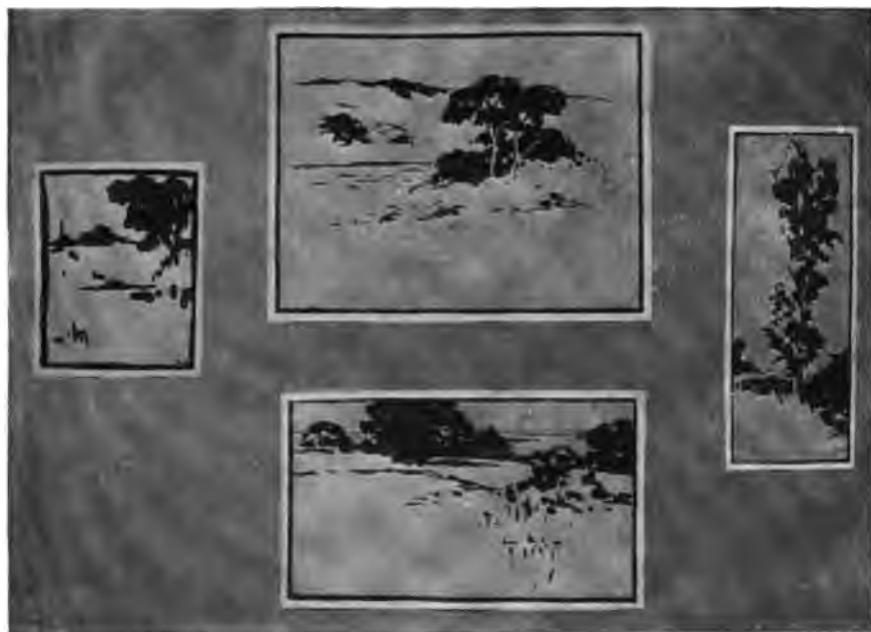


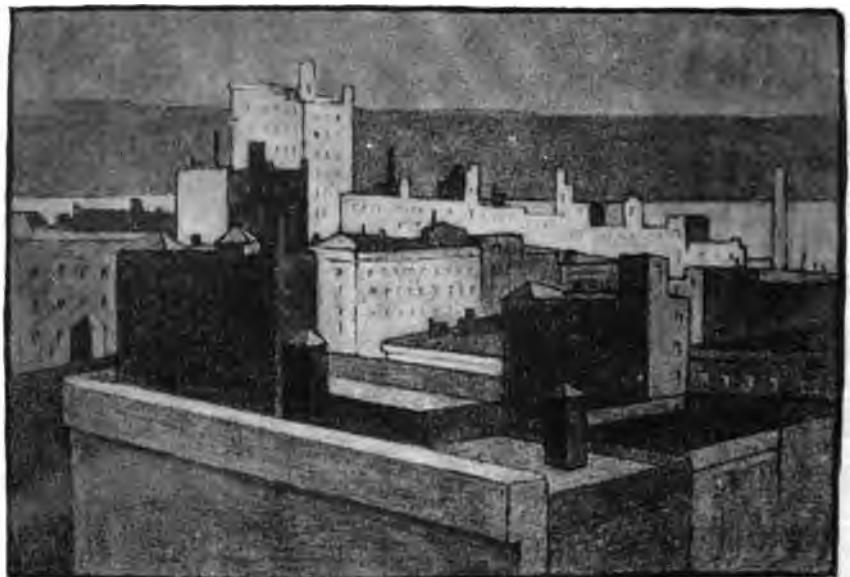




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